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No. 14.

THE SYMPTOMATOLOGY OF THE DISORDERS OF THE STOMACH FROM THE PHYSIOLOGICAL ASPECT.*

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Allow me to express my great appreciation of the honour you have done me in inviting me to read a paper before the Queensland Branch. I hope the subject I have chosen will prove of interest and provoke discussion; that will be of advantage to all of us.

To understand the symptoms met with in disorders of the stomach and to apportion to each one its proper significance are difficult problems, largely because so many symptoms are common to different disorders of this organ; also because derangements of other organs give rise to these same common symptoms. Now this latter statement is not to be wondered at, if we bear in mind that the digestive apparatus functions as a whole by virtue of the nervous system which controls its activities; a disturbance of one part, acting reflexly through the nervous system, may affect the whole. Certain it is that affections of the gall-bladder, the intestinal tract or the appendix all disturb the function of the stomach. These disturbances of function reveal themselves by symptoms. To understand these symptoms one must have a knowledge of the functional working of the stomach; in other words, of its physiology.

I propose to deal with some aspects of the physiology of the stomach, and for this purpose I will take for discussion two of the symptoms that are most frequently complained of: fullness and pain.

In dealing with these two subjects we will have to discuss most of the functions of the stomach. Fullness is, I think, the most common symptom of all. It may be the only one complained of; it may be one of many symptoms. Most of us have experienced it. Patients say they feel distended or full of wind. This feeling of distension may come after a very small meal or after a large one. It does not bear any definite relation to the amount of food taken. It may come on immediately after the meal is taken. It may only be complained of after a considerable time has elapsed from the taking of food. That pleasant sense of satiety that a hungry person experiences after partaking of an appetizing meal may be converted into a sense of fullness if more than sufficient be taken. It may also be experienced when a meal is too rapidly swallowed. In most cases the patients say the fullness is not painful, but uncomfortable. In others the "full" sensation may increase and become merged into a painful sensation. In accordance with that universal tendency to explain their symptoms, most patients attribute the sensation to "wind," and offer as proof of the statement that they are relieved when they "belch up wind," but this explanation is offered by patients to explain most forms of discomfort or

pain in the abdomen, so that one must be chary in accepting it as an adequate explanation. Inasmuch as the sensation is common to many disorders, so there must be a common basis for it. For example, patients attribute the discomforts and pain that arise from gall-stones or renal or ureteral colic or appendicitis to "wind," and the only common physical condition present in these affections is increased tension.

That increased tension is the cause of the full feeling is proved by experiments on two healthy men. Through a tube with a manometer attached passed into the stomach, the stomach was inflated with air. When the intragastric pressure reached 12 to 14 mm. Hg. the patient experienced a sense of fullness, with the desire to eructate. After 20 seconds the pressure fell slightly, and with this fall of pressure the sense of fullness disappeared. Slowly pumping in more air caused the pressure to rise a little, and at the same time the sense of fullness returned. Again, after the lapse of another 20 seconds, the pressure again fell, to rise again when more air was injected. In normal persons, if 50 c.cm. or 500 c.cm. of fluid be introduced, the tension remains the same, provided the fluid be introduced slowly and time be allowed for the muscle fibres to relax.¹

Sherrington² made the following experiment:—

In an etherized dog the stomach was exposed and freed from abdominal pressure by suitable incisions of the abdominal wall. During twenty minutes an intragastric pressure, varying between 4 cm. and 5 cm. of water was maintained. The stomach at that time contained portions of a previous meal. Then 400 c.cm. of water were put into the stomach through a cannula. The intragastric pressure at once rose, but only by 1 cm. of water, i.e., to 6 c.cm., and 20 minutes later it had fallen to 4 c.cm. The organ had made room for the additional contents and exerted on it only the same light pressure as it had done on the smaller content it had held previously. Its muscular coat had exchanged its previous 100 c.cm. posture for a 500 c.cm. posture practically without change of tension. This ability of the stomach to adjust its postural tension suitably is a necessary requirement of the fundal reservoir, i.e., that it should receive easily, and accommodate easily, food arriving often in large volume quickly; and that it should do so without any large rise of pressure resulting. High pressure in the fundus would mean difficulty of entrance of further food from the œsophagus. Were it otherwise, gastric uneasiness and perhaps pain would result. Direct observation shows the ability of the fundus to adjust its postural contraction suitably in the converse case of diminishing content. In a man with gastric fistula, by reason of cicatricial stricture of the œsophagus, Kelling obtained the following data:—

Water to the quantity of 20 c.cm. and air to the volume of 300 c.cm. were introduced into the empty stomach. The intragastric pressure a minute later was 10 cm. of water. Two minutes later it had fallen to 8 cm., and it remained at that pressure during the next 20 minutes. It was then found that the water

* Read at a Meeting of the Queensland Branch of the British Medical Association on August 2, 1918.

had disappeared from the stomach and also some of the air, 200 c.cm. of the latter being all that was withdrawn. The stomach had got rid of 300 c.cm. without any fall in the intragastric pressure. These phenomena exhibited by the living stomach, *i.e.*, of maintaining practically a constant pressure while the contents are increased or reduced in amount, are not shown by the dead stomach. Distension of a dead stomach to 200 c.cm. causes an intragastric pressure higher than that attending distension to 600 c.cm. capacity of the excised, but still surviving organ.

A small cat took at a meal 150 grm. meat, with 150 c.cm. milk, the intragastric pressure rising to 9 cm. water. The animal was then killed, the stomach taken out and emptied; the introduction of 300 c.cm. of fluid into it then caused the gastric pressure to rise to 8 cm. water. Cannon and Lieb have shown that each passing of the cardia by swallowed food is accompanied by a rapid, small dilatation of the fundus, and that the dilatation is a reflex operated through the vagus. The gastric pressure at this moment drops a little and then returns to what it had been previously.

All these facts show that the stomach normally dilates to accommodate increased amounts of food, or responds to increased distension, but at the same time the stomach, even with the stretching of its wall, as must happen by relaxation of its muscular coats, preserves an extraordinary uniform pressure on its contents. This peculiar property is due to the tonus of the muscular fibres, which is one of the most extraordinary characteristics of muscle. Undue disturbance of the tonus of the stomach causes the sensation of fullness, for we have seen that, with increased tension within the stomach, the sense of fullness arises, and when that tension diminishes, the sensation of fullness disappears. Now tonus depends upon the neuro-muscular mechanism of the stomach. A stomach that is dead, *e.g.*, a stomach removed from an animal dead for more than an hour, has no tone in it, and Sherrington² has shown us in the experiment I have quoted that a stomach removed from an animal immediately after death and kept in warm saline solution still continues to exhibit tone. All the hollow viscera have this property. Its loss leads to dilatation; nay, is the cause of dilatation, as McKenzie³ has shown in his great work on the heart. When tonus is increased we have the condition known as "hyper-tonus" and in hyper-tonus we may have the function so disturbed that, with a moderate meal, the normal relaxation of the muscular fibres does not take place. There is increased tension exerted by them on the contents of the stomach, and a sense of fullness is experienced. The sensation of fullness, then, it would appear, is caused in the majority of cases by hyper-tonus; but what causes hyper-tonus? To answer this, let us first see in what conditions we find that patients complain of fullness after food. It is a common observation that disturbances of the intestinal tract, of the gall-bladder and of the appendix give rise to this complaint. These disturbances cannot act directly on the stomach, but only through a reflex mechanism. Through "the integrative action of the nervous system," a disturbance of one part of the digestive canal leads to disturbance of a far distant part. This

is nowhere better shown than in the observations of Cannon and Murphy.⁴

These investigators performed high intestinal section and suture. By means of X-rays they observed that gastric peristalsis was not interfered with, but for almost six hours after recovering from an anaesthesia the pylorus remained tightly closed against the peristaltic pressure and did not permit the food (potato) to pass into the injured gut. As they point out, there is a remarkable coincidence between the period of delay of the discharge from the stomach and the period required for the primary cementing of intestinal wounds.

Cannon, in conjunction with Hedblom⁴ investigated the effect of irritation of the colon on gastric discharge. A few drops of croton oil were injected into the caecum through a small incision in the abdominal wall. Next day the animals were fed with a standard potato meal and observed by X-rays; in all cases food was still present in the stomach at the end of seven hours, though normally the stomach is emptied of most of this food in about three hours.

In other parts of the alimentary canal hyper-tonus exists and the sense of fullness is complained of. We meet with it commonly enough in cases of functional disturbances of the nervous system; in the case of the overworked business man, or in the much worried and perhaps more overworked housewife. In such cases as these, the patient, owing to the sense of fullness experienced after taking food, begins to take less and less food, in order to avoid discomfort. The nervous system becomes more and more irritable, and although taking less and less food, the patient still suffers from the sense of fullness after eating.

Hertz⁵ states that in a number of medical men who consulted him for atonic dilatation which they thought they were suffering from on account of fullness and distension after partaking of small amounts of food, just as many had hyper-tonic stomachs as those who had atonic stomachs, and he further showed, by means of X-rays, that of many patients who complained of fullness, which they ascribed to "wind," in no case was this cause present. In many cases of constipation fullness in the epigastrium after the taking of food is a frequent complaint.

Hyper-tonus then, it would appear, is an expression of heightened reflex activity caused by increased local stimuli, such as may arise from gall-bladder affection, duodenal ulcer, or appendicitis, or from increased excitability of the nervous system generally.

It will be readily seen then, I think, that fullness in the epigastrium is a disturbance of that extraordinary function of the muscle of the stomach known as "tonus." Bayliss,⁶ in discussing tonus, quotes Uexhill's account of the bivalve pecten, from which the following is taken:—

An interesting example of tonus is to be seen in the bivalve pecten. If a pen-holder placed between the open lips of the shell touches the parts within, the shell valves close and hold the pen-holder tightly. This is so tightly gripped that it can be extracted only with difficulty; but the shells, if forced apart, remain at the same degree of partial closure; they do not close further. Any attempt to pull them further apart shows that they oppose a great resistance. Yet a slight pressure of the fingers is sufficient to close the shell

valves, when there will be the same resistance to opening them as there was in the beginning. Thus it can be shown that if the shell valves of pecten be partly closed or fully closed, they remain so, and may remain so for days together, despite the drag of a weight which has been attached to separate them. This is the best example of persistent tonic contraction of muscle that I have any knowledge of.

There is another class of case still to be considered where fullness is complained of, and that is in cases where the stomach wall is structurally altered, cirrhotic or the seat of malignant growth; relaxation may be impossible, so that very little food may cause a feeling of great fullness. The epigastric tension under such conditions is rapidly raised with the taking of small amounts of food. Let me quote one case that came under my own observation at the Royal Prince Alfred Hospital recently:—

A man, 50 years of age, until some months previously had enjoyed perfect health. On admission he was cachectic and had lost a great deal of weight. He took extremely little food, owing to the great discomfort that was caused thereby. He complained much of fullness and pain, even after a few mouthfuls of food. Examination by ordinary means revealed little beyond the cachexia and the great wasting. X-rays showed a remarkable fact. The stomach emptied itself with extraordinary rapidity, yet there was practically no peristalsis visible. There was little doubt that he had malignant growth of the stomach. He died, and post mortem the walls of the stomach were found to be infiltrated with cancerous growths, which extended to and invaded the pyloric sphincter, so that it remained permanently open. The extent of the growth showed that distension of the stomach and complete closure of the sphincter were not possible.

On the other hand, in that condition of dilatation of the stomach, due to obstruction of the pylorus from a malignant growth, there is very little tonus. Only when the stomach is full, so to speak, to overflowing, is there any sensation of fullness, which is followed, as a general rule, by a most copious vomit, practically all the food which has been taken during the day being rejected. The absence or a greatly diminished amount of tonus in dilatation of this character explains the fact that the stomach may contain such extraordinary amounts of food without fullness. Hyper-tonus, then, is ordinarily responsible for the feeling of fullness that is such a common symptom in stomach disorders. When this symptom is complained of we should seek for a cause for it, either in the stomach itself or in neighbouring organs, the gall-bladder, bowel, appendix, even the kidney or ureter, or in a general disturbance of the nervous system, as in neurasthenia or uræmia, in which case the sense of fullness is but a local sign.

Pain is one of the most common symptoms of disorders of the stomach. It requires very careful consideration. It is of extreme importance, and a proper understanding of its significance will help us to unravel many a knotty problem. First, then, it is necessary to know why pain arises in disorders of the stomach. In disturbances of the hollow viscera it has been well established that they are insensible to stimuli, which, applied to the skin, produce painful impressions. So long ago as 1753 Haller failed to find

evidence that the pleura, peritoneum, the liver, lungs, the spleen, or the kidneys in animals were sensitive to pain, and Lenander⁶ found (McKenzie in "The Interpretation of Symptoms") that, during operations performed on man after a subcutaneous injection of cocaine, and with no other anæsthetic, the normal stomach, colon, small intestine and appendix could be touched with cold or hot objects, burnt with a cautery, clipped with forceps, cut with a knife, without any sensation being produced. McKenzie, too, made similar observations, many of the patients being without a local anæsthetic. Other observers have confirmed these statements, and it is a familiar fact to surgeons, since colotomy has been done in two stages, that manipulation and cutting of the colon in the second stage is productive of no sensation whatever.

Now, seeing that cutting, pinching and cauterizing are stimuli which evoke pain when applied to the skin, and yet fail to give rise to painful impressions when applied to the stomach, etc., it is quite obvious that the sensory nerves supplying the viscera are different in their reaction to stimuli to the sensory nerve on the external surface of the body, but inasmuch as pain is experienced in disorders of the viscera, there must be a certain stimulus which evokes pain.

Further, it is common belief that a hyperacid condition of the gastric secretion causes pain. Now, the amount of HCl secreted by the stomach varies between 0.1% and 0.3%. Let us remember that an anomaly of HCl secretion is in itself by no means a certain index of stomach disease. When HCl of a strength of 0.4% and 0.5% is introduced through a tube into the empty stomach of normal people, no sensation of any kind is produced, and HCl of a strength of 0.5% introduced into stomachs through the opening made in cases of stricture of œsophagus gives rise to no sensation.

Schmidt introduced 15 c.cm. to 30 c.cm. of 0.5% to 2% HCl through a gastrostomy wound into the empty stomachs of three patients and into his own stomach by a stomach tube; no sensation resulted. It is, therefore, quite clear that pain so often associated with excess of free HCl cannot be due, as is so generally believed, to excess of HCl alone, because it is quite certain that as much as 0.5% free HCl is never present in the stomach. Moreover, many patients showing excess of free HCl by examination have neither pain nor gastric symptoms.

The conclusion, therefore, is that excess of HCl in the stomach is one manifestation of disorder or disease, in which pain is another, and it is not the cause of the pain.

Again 0.5% HCl applied to an abrasion on the skin causes smarting pain, and it might be thought that it would cause pain when applied to a gastric ulcer. In six cases of gastric ulcer (the diagnosis confirmed by operation) 0.5% HCl produced no sensation at all, and no sensation was produced when the HCl was mixed with pepsin. (Hertz.¹)

Now, the current belief is that in gastric ulcer pain is caused by direct contact of the acid with the ulcer. In view of these observations, we must assume that current belief is erroneous.

One stimulus that causes pain in the viscera is tension. It must be of a considerable degree, for we have seen that, up to a certain point, tension only gives rise

to fullness. When the tension is increased beyond this point the sensation of pain arises. Tension then is the appropriate, or, to use Sherrington's expressive term, "adequate stimulus" for the production of pain when applied to the abdominal viscera. Experiment proves it. Our daily observations of patients show it; nor need we be in doubt why noxious stimuli to viscera fail to evoke painful impressions, although the same stimuli, when applied to the skin, cause much pain. The organism, through evolutionary changes, has a large external surface for the reception of tactile, painful and thermal impressions, the so-called exteroceptive receptors, and a large internal surface, for which such receptors would be quite useless. They have never been developed, because they would be of no advantage to the organism. Far otherwise is it with the exteroceptive receptors, for by these the animal is brought into close and intimate relation with its environment, and, owing to these, the animal can protect itself from various forms of injury. On the other hand, interoceptive receptors respond to adequate stimuli, mechanical and chemical; slight distension, a mechanical stimulus, provokes peristalsis. Hydrochloric acid, a chemical stimulus, acting on the duodenal mucous membrane, gives rise to secretin, which, absorbed into the blood stream, excites the pancreatic secretion. Slight tension, required to produce peristalsis, is the adequate stimulus for normal action, but great tension, as we shall see, causes pain.

(To be continued.)

SOME PRINCIPLES UNDERLYING THE SURGERY OF GASTRIC ULCER.¹

By Gordon Craig, M.B., Ch.M.,

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Within the last few years Rosenow has carried out a brilliant and what promises to be an epoch-making series of researches on animals, demonstrating the relationship of streptococci to ulcers of the stomach and duodenum. Until then there had been no satisfactory or convincing explanation for the occurrence of gastric and duodenal ulcers in man. So far back as 1874 organisms had been demonstrated in gastric ulcers, and many observers since then have confirmed these findings. The presence of these organisms was not considered a primary, but rather a secondary, infection. Bolton, in 1913, in his publication on *Gastric Ulcer*, suggested that probably the commonest cause of acute gastric ulcer was bacterial infection. Later Rosenow published an account of some experiments, showing that: "Streptococci, quite irrespective of their origin, when of a certain degree of virulence, exhibit an affinity for the gastric mucous membrane and produce localized infection and ulcer." Since then he has made further investigations, which have given more and more convincing proof of his preliminary findings. From the base and edges of excised gastric ulcers in man, he isolated streptococci and other organisms, and each of these groups of organisms was cultured in suitable media and injected intravenously into animals, namely, dogs, guinea-pigs, rats and mice. Of those animals injected with streptococci, 60% developed gastric ulcer, while the animals

similarly treated with cultures from the other organisms showed no lesions whatsoever. In a few patients who were suffering from gastric or duodenal ulcer and who had been subjected to surgical treatment, it was found that streptococci could be obtained from a dental root abscess or an infected crypt in the tonsil. When these streptococci were injected into animals, some 20% of them developed gastric lesions, but only 8% gastric ulcer, as compared with 60% when the streptococci were obtained direct from the gastric ulcer of the same patient. This clearly shows that the particular strain of the streptococcus from the gastric ulcer has a more selective affinity for the gastric mucous membrane than the same organism from other sources. To prove definitely that a particular organism had a causal relationship to gastric or duodenal ulcer, it was necessary to demonstrate that the streptococci were present in the artificially produced ulcer. This was done, and a gastric ulcer was again produced from these streptococci.

During the course of the investigations, two remarkable facts were noted, namely, that, after the streptococci had been passed through animals, a less and less proportion of them developed gastric ulcer, but a greater and greater number developed cholecystitis and pancreatitis. On the other hand, cultures, on artificial media, which were kept for varying periods up to some weeks, developed an affinity for the appendix rather than the stomach. Animals fed on meat and crushed-up bones, to which had been added cultures of suitable streptococci, failed to develop gastric ulcer, while the same organisms injected intravenously would produce gastric ulcer, thus showing that the infection is not a frontal attack through the short, direct, natural channel of the oesophagus, but an attack in the rear through the indirect channel of the blood stream.

Artificial gastric ulcers have been produced by means other than the injection of micro-organisms, viz., by the actual cautery, by the injection of corrosive chemicals, and by interference with the blood supply. Ulcers produced by these means do not tend to become chronic, but heal quite readily. There is another kind of artificial gastric ulcer produced by division of the splanchnic nerve supply to the stomach, and a further one appears when the adrenal glands are removed. These two, however, bear very little resemblance to gastric ulcer as it appears in man. The ulcers produced by the injection of streptococci into animals have not only the same appearance as in man, but the same tendencies to become chronic, to hæmorrhage and often to perforate. On turning to evidence of the microscope, it was found that the organisms were arrested in the fine capillaries surrounding the gastric glands, then followed hæmorrhage, necrosis and ulceration. The later gross and microscopic appearances showed the same characters as in the chronic ulcer of man. This evidence is so convincing that one must almost accept Rosenow's statement when he says that the primary cause of gastric ulcer is a hæmatogenous infection of the mucous membrane of the stomach by the streptococcus. We yet await confirmation by other observers.

It must not be forgotten that Rosenow's researches extended over a period of three years, and many hundreds of animals were used. They were carried out in

¹ Read at a Meeting of the Queensland Branch of the British Medical Association on August 2, 1918.

widely separated places, under widely different conditions. The results, however, always led to the same conclusion. The only constant factor throughout the research was the presence of the investigator himself.

The tendency of the gastric ulcer to become chronic, as also the pain associated with it, has been ascribed chiefly to the corrosive action of the acid gastric juice; but as chronic gastric ulcer occurs in conditions of lowered acidity, or even in the absence of any free acid, it is unlikely that this is the real cause. From X-ray evidence it has been generally recognized that there is only one common factor in those patients suffering from the hunger pain of gastric or duodenal ulcer, and that is, the hyper-motility of the stomach. This hunger pain, as is well known, may be produced by lesions other than gastric ulcer, such as cholecystitis or appendicitis, but the hyper-motility of the stomach is present, just as in gastric or duodenal ulcer. When an ulcer is once present the slight but ever-repeated mechanical irritation brought about by this hyper-motility must be an important element in the persistence of the lesion. It is also likely that the hyper-motility is the cause of the characteristic hunger pain.

A personal experience of one case of pyloric ulcer in a middle-aged man throws some light on the persistence of gastric ulcer. The ulcer was excised along with the pyloric antrum. On exposing the mucous surface of the crater-like ulcer there was found a plum stone fitting snugly across the base, both of its ends caught in the overhanging edges. The stone had to be tilted on end before it could be dislodged from its resting-place. This fact, accidentally brought to light, may explain one of the causes of chronicity in ulcers of the stomach.

Those who visit the shores of our coast are familiar with the holes in the tide-covered rocks. These holes, sometimes quite deep, are produced by the slow, grinding action of stones or pebbles caught in the surface depressions. Each rising and falling tide, with its eddying currents, stirs around the stones, which wear away the underlying rock. The whole appearance of these holes suggests a giant gastric ulcer. Is it not likely that the solid food particles, caught in the seething, swirling currents of the digestive tides, act on the ulcerated depressions of the mucous membrane, much as the pebbles on the seaside rocks?

Diagnosis.

The surgeon is fortunately placed in the position of being able to check his diagnosis by the operative findings. In this way he is able to gauge the relative value of the evidence obtained: firstly, from the clinical history; secondly, from X-rays; thirdly, from examination of the patient; and, lastly, from gastric analysis.

At the present stage of our knowledge I would place the relative values in the order that I have named. It is something that, in spite of the great advance in laboratory methods and radiographic science, a good clinical history still takes first place as a means of diagnosis. Moynihan goes so far as to say that he is prepared to make a diagnosis of gastric or duodenal ulcer on the history of the patient alone. Few of us would be prepared to go as far as this.

When the ulcer is in the pyloric region or the duodenum, the history is usually characteristic. There

is the hunger pain, which is most constant of all, eased by the taking of either food or an alkali like baking soda. An old patient of mine was so dependent upon this salt for his relief that he never travelled without carrying a four ounce tin of it with him.

When the ulcer is situated on the lesser curvature or on the posterior surface of the stomach, the history is by no means so characteristic. The pain is more apt, with the ulcer in this situation, to come on a shorter time after the meal, or it may be absent altogether.

The story of the patient's illness is usually one of attacks of stomach trouble, extending over a few weeks, or even a month or two, to be followed by long intervals of perfect freedom; usually a month or two; sometimes, though rarely, a year or more. In the light of the infective explanation of gastric ulcer, these periodic attacks of pain correspond in all probability to a re-infection of the patient from the original focus containing the streptococci, owing to lowered resistance on the part of the patient.

As time goes on these intervals between attacks become less and less, till eventually the patient is seldom free from the knowledge that all is not well with his digestive organs. The hunger pain also tends to be relieved for a less and less period after the taking of food, until the patient feels that he never is quite free from pain or discomfort. He is inclined to reduce the quantity of his food rather than to restrict his diet to some particular article of food. The patient suffering from gall-bladder disease, on the other hand, manifests just the opposite sign; he is afraid of the quality rather than of the quantity of his food.

It will be seen that, as the patient progresses, the characteristic history of ulcer becomes obscure, and only by the careful inquiry into the early onset of the disease can the characteristic symptoms be recalled. So overwhelming is his present suffering that the patient forgets or passes over the relatively important, but, to him, insignificant, early symptoms.

X-ray evidence has become so important that an X-ray expert in this subject is estimated to reach an accuracy of 80% or more in his diagnosis; especially is this true in the later manifestations, when the ulcer has become chronic.

Although tender points used to be relied upon in my student days as one of the pathognomonic signs of ulcer, elicited by examination of the patient, I do not feel that a great deal of weight can be placed upon this evidence. X-ray workers place some reliance on this tenderness when taken in conjunction with the screen examination, yet it is nothing like such valuable evidence as the tenderness of a cholecystitis or appendicitis. Ulcers in an advanced state may be present without any evidence of local tenderness. In the examination of the patient his general appearance is of importance. The ulcer patient is usually a thin patient. The patient who gives a history resembling that of ulcer, but who retains a well-nourished appearance, is more likely to be a case of gall-bladder disturbance. From what has been said about Rosenow's researches on the infection of streptococci, the examination of the mouth, tonsils and nasal accessory sinuses is of extreme importance. Every medical man knows how often dyspepsia is associated with bad teeth. Previously we have always looked upon this as chiefly a mechanical relationship in so far as

the patient is unable to chew his food satisfactorily. It is much more likely that the organisms harboured in these carious teeth have the closer relationship to the disease.

Treatment.

No one will deny that early gastric ulcers, and perhaps older ones, may be cured by medical measures, but in the light of the pathology of the living, as seen by abdominal surgeons, these reputed cures must be accepted with reserve. Many of these patients, said to be cured, have been operated upon and found to be still suffering from a chronic calloused ulcer, although they were quite free from any subjective manifestations. By the discovery and removal of some focal infection in the mouth, tonsils or nasal accessory sinuses, one can see that fewer patients will need the surgeon's help and the physician will be able to regain that sphere of influence so recently threatened by his surgical colleague. We will, as a profession, be able more nearly to fulfil that aim that should ever be before us, namely, the prevention rather than the cure of established disease.

Once a gastric ulcer has become chronic and calloused, it is as much a surgical problem as a corresponding ulcer in the lower extremity. In using the term "gastric ulcer" in this paper, I wish my remarks to be understood as chiefly referring to ulcers in the pyloric area and the duodenum. Anatomically, these are different structures, but embryologically, they are descendants of the same primitive division of the intestinal tract, *viz.*, the fore gut. Surgically, they require the same general principles of treatment.

Operative Treatment.

Posterior gastroenterostomy, with no loop or a short loop, is one of the soundest and safest abdominal operations of the present day; yet there are other measures for dealing with gastric ulcer which offer better results in certain particular conditions, and the surgeon must guard against doing this operation of gastroenterostomy as a routine measure. It is credited with curing or greatly relieving from 80% to 90% of the sufferers from this disease, but yet there is a residue who are either not cured or not more than slightly relieved, if at all. It is by modifying our routine methods of surgical procedure that we will be able to still further improve this already splendid record.

It is impossible to discuss the methods of surgical procedure in detail, but the broad principles underlying this procedure must be clearly kept before our minds. There is a classical experiment that has been confirmed by many investigators, that if a gastroenterostomy be performed on a normal dog and the animal is afterwards fed with a piece of meat tied to a thread, the piece of meat will not choose the artificial opening, but will escape through the pylorus and return into the stomach through the artificial opening, when it will repeat its former journey. The findings of X-ray workers in patients who have had this operation done also show that the fluid passes in great part through the pylorus, as well as the artificial opening. In the light of these facts, it is hard to explain why gastroenterostomy cures pyloric or duodenal ulcer. It cannot be merely the partial diversion of the food stream. It is more than likely that it is the lessening of the hyper-acidity by the alkaline bowel secretion leading to a diminution of the hyper-motility, which

has already been shown to be a great factor in the persistence of the ulcer. In no circumstances should the operation of gastroenterostomy be looked upon as one of drainage. In my early days of general practice, I had the opportunity of seeing the after-results of many of these operations performed by surgeons of repute. The operations were performed with the object of draining the dilated stomach, in which no ulcer could be demonstrated. Invariably these patients were made worse. Even to-day one occasionally comes across one of these poor victims of misdirected surgery, seeking relief at the various medical shrines, not always of the orthodox variety. In some of these cases I have had an opportunity of disengaging the gastroenterostomy, with much benefit to the patient. Unless an ulcer can be seen or felt by the surgeon at the time of operation, the gastroenterostomy should not be performed. It will only bring discredit on surgery and prevent many a true sufferer from obtaining relief. Although the patient who has gastric ulcer is cured in the sense that he loses his subjective symptoms of discomfort, let us not, however, think that he is a normal human being. No man or woman with two outlet holes to the stomach is normal. We know that the patient who has had to have the pylorus or a greater section of the stomach removed and a posterior gastroenterostomy performed is much nearer normal than the one who has the pylorus left patent. Many operations based on this knowledge have been devised for occluding the pylorus, from tying with silk, to the use of a strip of *fascia lata*. None, however, is as certain as excision or division of the duodenum and invagination of the stump.

The operation of plastic enlargement of the pylorus fell into disrepute for many years after the discovery of posterior gastroenterostomy, but now it is being slowly but surely re-established as a sound surgical procedure in selected cases of duodenal and pyloric ulcer. Finney, of Johns Hopkins Hospital, designed a special method of plastic operation on the pylorus some few years ago. The test of time is now sufficient to show that patients in whom it has been performed eventually reach a higher degree of health than those who have had the classical gastroenterostomy. It allows only one path for the food to pass out of the stomach, and that path the natural one. Several patients on whom I have operated on in this way I have watched closely, and although their immediate recovery is slower and perhaps more anxious, yet they are freer from those minor disturbances which so often mar the after-history of a gastroenterostomy case. Finney's operation admits, in suitable cases, an excision of the ulcer in the course of making the horseshoe-shaped incision in the pylorus and duodenum. Excision of the ulcer, owing to its tendency to become malignant, should be performed if it does not unduly add to the risk of the patient's life. A secondary removal is to be recommended in four to six weeks after his primary gastroenterostomy. A patient suffering from a cicatrized ulcer in the pyloric region may be so reduced in strength that a simple operation is all that he could stand.

The records of death after gastroenterostomy show that shock and hæmorrhage play a prominent part. Many of the cases of shock are to be explained, like those of hæmorrhage, by a bleeding from the cut edges of the stoma between the stomach and the bowel. The

bleeding may be of any degree, from a slow oozing to a bright arterial flow. As generally done with clamps the operation will continue to have an appreciable mortality from this cause. The operation area is guarded from hæmorrhage by suitable clamps and at the same time from soiling by the contents of the stomach or bowel. Yet one may ask if these dangers warrant the use of an instrument that increases the liability to post-operative hæmorrhage. If the layers of bowel stitching are completed before the clamps are released, then absolute reliance is put upon the stitching, to control the bleeding from the cut surface. In operations on the extremities a wound is sometimes stitched up before the tourniquet is released; but in this case, post-operative hæmorrhage manifests itself early, and suitable steps can be taken to check it. A pad and a tight bandage usually suffice. In the abdomen, however, serious or even fatal hæmorrhage may take place before suitable measures can be taken to control it. Why not secure all bleeding points at the time of operation? Most of the vessels can be secured by two fine artery forceps before being cut. After division they should be tied individually, like a blood vessel in any other region of the body. It adds very little time, if any, to the operation. With clamps these vessels, lying between the muscularis and mucosa, are almost invisible. Without clamps they are easily seen after the division of the serous and muscular coat.

On a journey through the great clinics, I was struck by the fact that most of the world's leading abdominal surgeons still use clamps and only two layers of sutures. In view of such universal practice, it may seem verging on temerity to oppose it. I had the opportunity, in my early years, of being associated with that master of surgical technique, Sir Alexander MacCormick. He has always practised the no-clamp gastroenterostomy and the use of three layers of sutures: an inner continuous one, uniting the mucosa, with No. 0 plain catgut; a middle one of continuous silk, to coapt the muscular layers, and a similar suture to unite the serosa. Influenced by observation of other surgeons, I used for some time that three-bladed clamp known in America as the Roosevelt clamp. It is used in the Mayo Clinic, and also by Moynihan. I then appreciated why two layers of sutures were adopted as a routine. It is impossible, when using clamps, to complete a satisfactory three-layer union of the bowel wall. The danger of soiling the peritoneum at the time of operation by the contents of the stomach or upper bowel is negligible. I have never seen a case of fatal peritonitis arise from this cause, even when obvious gross soiling occurred. With a trained assistant, soiling by stomach or bowel contents should not take place when no clamps are used. The coapted stomach and bowel can be held by him in such a way as to prevent this accident.

In comparing the after-recoveries of patients who have had the no-clamp operation with those who have had the clamp operation, the former showed a smoother and more rapid convalescence. I feel convinced that the two-layer method of union does not bring the mucosa accurately together. To obtain smooth healing it is just as necessary to accurately coapt the mucosa as it is the skin. We accurately stitch every epithelial covering of the visible body sur-

face, for we know that if we fail to do so our wounds will take days, even weeks, longer to heal. The accurate apposition of the mucous membrane by an absorbable suture also does away with the danger of post-operative gastro-jejunal ulcers, which sometimes follow the operation of gastroenterostomy. Primary union of the mucosa takes place, and the deeper lying silk suture does not become infected. A careful investigation of all these ulcers has shown them to be due to an infected, unabsorbed silk suture. To obviate this danger one eminent surgeon advises the use of interrupted silk sutures for the serous layer. This step, I think, is a retrograde one; it postulates a secondary union of the mucosal line of suturing. Is it not more rational to accurately appose the mucous membrane, thereby getting primary union exactly as we would in the skin? By this means all the advantages of the continuous watertight suturing is obtained without its drawbacks.

Many surgeons have reported cases of post-operative closure of the gastroenterostomy opening. This, I think, is also attributable to inaccurate apposition of the mucosa. Unless primary union of that layer is obtained, a circular scar will follow along the line of union. This must contract as time goes on, and considerably lessen, if not obliterate, the opening. Some surgeons advocate the making of an opening of four fingers' breadth to overcome the tendency to closure. With accurate apposition of the mucosa an opening of two fingers' breadth has proved sufficient and shown no tendency to contract.

To prevent any misconception, I wish to point out that in anastomosis of the lower bowel clamps are necessary, but they should be applied in such a way as to stop the bacteria-loaded contents of the bowel escaping, yet not to interfere with the blood supply. The operation area is milked dry and the bowel clamp applied transversely above and below the operation area. In other respects the three-layer method of suturing is adhered to. In operations on the gastrointestinal tract, where powerful crushing clamps are used, all the conditions of accurate apposition of the mucosa obtain, as well as arrest of the hæmorrhage, by means other than the suture material.

The complication of "vicious circle" vomiting should now be a thing of the past. It is due to an obstruction immediately beyond the stoma blocking the onward flow of the gastric contents through the jejunum. It was at one time thought to be due to the regurgitation of bile into the stomach through the stoma. That this is not so is proven by the fact that vomiting does not occur when a gall-stone has ulcerated through the gall-bladder into the stomach and left a stoma through which the bile flows freely and mingles with the gastric contents. Vicious circle vomiting is a mechanical problem, and can be avoided by adopting the short or no loop operation with the long axis of the stoma running vertically or downwards and to the left.

In the narrow limitations of this paper I have tried to indicate the ever-increasing responsibilities of each unit in the army of medicine; general practitioner, physician, surgeon; each one of us must know the principles of its complex strategy and tactics if we are to continue the great advance of science against our common enemy, disease.

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Reports of Cases.

A CASE OF HODGKIN'S DISEASE.¹

By T. H. R. Mathewson, M.B., Ch.B. (Edin.),
 Brisbane.

The patient was a child, aged ten years, who was admitted into hospital in May, 1916, when a gland was removed by Dr. J. M. Roe for histological examination. The section of the gland, which has been described by Dr. Burton Bradley, showed proliferation of the reticular endothelium of the lymphatic gland and an increase of the reticulum itself, leading to a fibrosis of the gland and a disappearance of the lymphoid cells in places. There was a tendency for the large endothelial cells to fuse and to form giant cells with lobulated nuclei, which were quite different, however, from the giant cells found in tubercular lesions. An increase in the number of eosinophile cells, which had been described by some authors, was not exhibited in this section. Both Dr. J. Harris, who prepared the section, and Dr. Burton Bradley agreed that the microscopical appearances of this gland were identical with those found in Hodgkin's disease.

The history of the patient illustrated the chronicity of the affection and the unilateral involvement of the gland. As was usual, the cervical lymphatic gland were those primarily affected. In some cases the apparent superficial glandular enlargement is the terminal stage of a process which has begun in internal glands, either in the thorax or in the abdomen. The patient further illustrated the tendency towards retrogression of the glandular enlargement, since the swelling had become considerably less than it was previously. The anæmia was, however, more marked, and the spleen had become larger, reaching now to the level of the umbilicus. The bronzing of the skin which sometimes occurs in this disease was absent in this patient. In May, 1917, an examination of the blood had shown that the erythrocytes numbered 4,700,000 per cubic millimetre and that the leucocytes amounted to 8,500. A differential count of the leucocytes showed that the polymorphonuclear cells amounted to 62.5%, the lymphocytes to 23%, the large mononuclear cells to 7%, the eosinophile cells to 8%, and the basophile cells to 0.5%. In May, 1918, another examination of the blood was made, the red cells numbering 2,300,000 and the leucocytes 1,500 per c.mm. The differential count revealed that the polymorphonuclear cells formed 58%, the lymphocytes 23.5%, the large mononuclear cells 13.5%, the eosinophile cells 4.5%, and the basophiles 0.5%. Normoblasts were present in this blood. Since the red marrow in the shafts of the long bones remains red for some time after birth, there is comparatively little power of compensation, without disturbance of those red cells concerned with the reproduction of their species. Hence nucleated red cells appear in the circulation in conditions of anæmia of children. Hodgkin's disease is of rare occurrence in children, but this patient was the second, and possibly the third, the author has seen during the last twelve months.

A UNIQUE CAUSE OF STILL-BIRTH.

By Cuthbert Hall, M.D., Ch.M.,
 Parramatta.

Mrs. F., aged 40, 9-para, was seen by me after labour had been in progress for eight hours. The presenting part showing between the outer labia looked for all the world like an infant's scrotum as it often appears in breech presentations. Digital examination, however, disclosed that it was the loosened scalp, with soft brain matter in it, and

the cranial bones were found very much crowded together. On questioning the mother, it was elicited that fetal movements had been very active until three weeks ago when, after about one or two minutes of extra strong kicking, they suddenly ceased, and had not been felt since. Forceps were applied, and an eight months' fetus beginning to macerate was delivered. The cord, a fairly long one, was twice round the neck. On attempting to draw away the right foot an obstruction was felt, and on examination it was found that the cord was looped round the right ankle, in addition to the two loops round the neck, and was also caught between the great toe and second toe. The cause of the fetal death was now evident. The fetus, a very active one, had not merely managed to get the two loops round the neck, and one loop round the right ankle, but had grasped the cord between the toes, and as it felt asphyxia approaching had tightened the loops in its struggles, as well as compressing the umbilical vessels between the clenched toes. Knots in the cord are of very rare occurrence, though I have seen two cases, but the condition here described must be of the rarest, and seems to me worth recording. Considering the possibilities for mischief in a long umbilical cord, it is a wonder that trouble does not oftener occur.

Reviews.

WAR SURGERY OF THE SKULL.

A master of his craft gives us the fruits of his wide experience in *Traitement Opératoire des Plaies du Crâne*.¹ There is no padding and no tiresome reiteration in this excellent book. De Martel explains lucidly his operative technique in skull surgery, discusses briefly the problems which confront the operator in this most disappointing of all spheres of surgery, and reviews the more common complications that may follow intervention.

There are many who will disagree with his advocacy of local anæsthesia, and few perhaps who will follow him in the use of the special instruments which he employs and which naturally he thinks best. The sitting position which local anæsthesia permits, gives the advantage of less hæmorrhage and of freedom from anæsthetic vomiting; but there is something in the psychical constitution of the British which has prevented local anæsthesia from attaining any great popularity with either surgeon or subject.

Meningitis still remains the bugbear of cranial surgery. The *dura mater* is the great protective barrier beyond which one ventures with the imminent peril of infection. Skull injuries without *dura mater* involvement are never followed by meningitis, and the apparent exceptions will be found to be cases in which fissured fractures communicate externally through the ear or the nasal cavities. In this regard the use of gouge forceps which fracture rather than cut the bone, may be followed by the extension of a vault fissure to the base.

The œdema of the brain which frequently follows perforating wounds of the *dura* has at times a protecting function, in that it presses the brain firmly against the deep surface of the *dura* and localizes infection by the formation of adhesions. Surgical intervention must therefore respect these adhesions.

Lumbar puncture as a preventive of meningitis is incomprehensible to de Martel, inasmuch as the subsidence of the brain following its employment must necessarily disturb these protecting adhesions. In the presence of an acute meningitis, however, lumbar puncture has a distinct place in the treatment.

The author's discussion on cerebral hernia is a valuable one; in his treatment of this condition he modifies Leriche's method of enlarging the osseous breach by fashioning an osteoplastic flap having for its centre the orifice which gives passage to the hernia.

He holds no uncertain views as to the uselessness of cranioplasty in relieving the subjective symptoms for which they are often performed. The only true indication is the cosmetic demand of the case, and in this instance he follows the method of Morestin and uses rib cartilages to span the cranial defect.

¹ Read at a Meeting of the Queensland Branch of the British Medical Association on June 7, 1918.

¹ *Traitement Opératoire des Plaies du Crâne*, par T. de Martel, Deuxième édition (Collection Horizon, Précis de Médecine et de Chirurgie de Guerre); 1918. Paris: Masson et Cie; Demy 8vo., pp. 107. Price, 4 francs.

The Medical Journal of Australia.

SATURDAY, OCTOBER 5, 1918.

Medical Registration in Tasmania.

The Bill which the Premier of Tasmania has introduced into Parliament for the purpose of consolidating and amending the *Medical Act, 1908*, is a measure containing some satisfactory provisions, the majority of which are included in the existing Act, and several provisions calculated to render the measure a disastrous one to the Tasmanian community. Considerable modification will be needed to make it acceptable. We propose to publish the text of the Bill in next week's issue. The provisions may be summarized as follows: The existing legislature is to be repealed and on the passage of the measure a fresh start is to be made. There is to be a Medical Council consisting of nine members of the medical profession elected by the Governor. The members of the existing Medical Council are to be eligible for appointment to the new Council. The Medical Council is to have the duty of furnishing the Chief Secretary with information concerning its proceedings or operations when requested. Every practitioner whose name appears on the current Medical Register is to be deemed a legally qualified medical practitioner. The Medical Council must keep a medical register, and may alter it, erase names from it and make additions to it. The removal of a name from the register may be effected if the person named be convicted of a felony or misdemeanour, or if, after due enquiry, the person be judged by the Council to be guilty of infamous conduct in a professional respect. The Supreme Court may compel the registration or restoration to the register of any person who, in the opinion of the Court, shall have been unreasonably refused registration or removed from the register by the Council. Every person possessing one or more of the qualifications set out is to be entitled to be registered. The qualifications named in the schedule include the diplomas of the Royal Colleges of Physicians of London, Edinburgh or Ireland, the diplomas of the

Royal Colleges of Surgeons of England, Edinburgh or Ireland, the diplomas of the Faculty of Physicians and Surgeons of Glasgow, the licences of the Society of Apothecaries of London and of the Apothecaries' Hall, Dublin, the degrees in Medicine or Surgery of any University within the British Dominions, other qualifications entitling the holders to be registered in Great Britain and Ireland, or evidence of having been duly appointed and confirmed medical officers of His Majesty's sea or land services. In addition, any person who has passed through a graded course of medical study of not less than four years' duration in a medical college in one of the States of the United States of America, rated as of Class "A" by the Council on Medical Education of the American Medical Association, who has received a degree or diploma after due examination from the medical college, and who has received from the State Board of Medical Examiners of the State in which the college is situated a licence entitling him to practise medicine or surgery in that State, is also to be entitled to be registered in Tasmania. In the next place, provision is made to deal with persons guilty of fraud or false representations in obtaining certificates of registration or who forge or alter certificates. Unregistered persons may be fined fifty pounds for pretending to be medical practitioners or for using titles indicating that they are medical practitioners. Medical practitioners will be required to append a date, their signature and address to all prescriptions. Another clause gives medical practitioners the right to sue for fees. The fee for registration is to be three guineas.

It will be noted that, while the nine members of the Medical Council are to be medical practitioners, all are the nominees of the Governor. It is advisable that the medical profession should have direct representation on the Council, which is vested with disciplinary powers. The General Medical Council in Great Britain was formerly composed entirely of Government and University nominees, but now contains direct representatives of the profession. Little exception will be taken to the powers and duties of the Council. It would be preferable if the Council were vested with powers to deal with delinquents in some other manner than removal of the name, when the offence does not justify this extreme course. It has

been suggested that it would be salutary to give the Council power to issue warnings and to suspend the registration of a member temporarily in certain instances.

The serious defect of the Bill is to be found in the schedule of qualifications entitling the holders to become registered. The first eleven clauses contain the names of licensing bodies which are generally recognized for the purpose throughout the Empire. There is a grave danger in admitting medical officers who have received commissions in His Majesty's sea or land forces. It is well known that persons without adequate training and without recognized qualifications are at present serving in this capacity. The people of Australia should be safeguarded against the inefficiency of half-trained and unqualified persons who have nothing else to recommend their registration than the fact that they have served in the Army or Navy. This provision is a relic of an antiquated coroner's law and has no justification in any modern medical act.

The clause entitling a holder of a degree or diploma of a Class "A" American medical college to registration in Australia is indefensible. The Council of Medical Education of the American Medical Association is not a statutory body. It is no argument that, because the law in the United States of America recognizes this body for registration purposes within that country, the Tasmanian Government should bind itself to accept its decisions. These decisions can be varied at will at any time, and the Tasmanian Government would have no power to demur. We know of no instance in legislation in which the conditions set up by a non-statutory body in a foreign country are permitted to govern any act of a statutory body. The whole idea is so unconstitutional and so opposed to reason that we cannot for one moment believe that the Tasmanian Parliament will accept it. It must be remembered that we have three excellent medical schools in Australia, and these schools should form the chief recruiting ground for the medical profession in the Commonwealth. We are part of a great Empire—the greatest in the whole world. The second recruiting ground must be the recognized corporate bodies and universities of the Empire. Together the Commonwealth and the re-

mainder of the British Empire can supply all the needs of the Commonwealth. The door should be closed to all other medical schools, save those that open their doors reciprocally to us. Why should we admit the foreign practitioner to Australia when our own graduates are not allowed to practise medicine in foreign countries? The Tasmanian Bill is not even logical. It selects a single foreign country for special preferential treatment, without asking for any reciprocity. While it is freely admitted that many American practitioners are skilful and learned physicians, it is common knowledge that the medical profession in America contains many undesirable, unethical and ignorant members. There can be no question that the worst and not the best of the American doctors would seek their fortunes at the expense of the Tasmanian public. To allow the Bill to stand as it is would mean a lowering of the standard of medical practice and a grave injustice to the people of the island State.

THE FRIENDLY SOCIETIES' DISPUTE.

It has been remarked that but little information is published week by week in *The Medical Journal of Australia* concerning the progress in the dispute between the Victorian Branch of the British Medical Association and the Friendly Societies' Association. Since the issuing of the report of His Honour Judge Wasley on June 21, 1918, the Council of the Branch has examined again and again all the proposals put forward and has failed to discover a means of settlement advantageous to the lodge patients and satisfactory to the medical profession. Many concessions have been made, but the Council has refused to sacrifice those principles that are essential for a satisfactory service. It appears to be unlikely that material progress will be made by counsel in the endeavour to find a solution acceptable to both sides. The Friendly Societies' Association apparently has no power to bind the individual friendly societies, orders or lodges in any agreement, and those orders and lodges that have set up medical institutes as instruments to bring the ex-lodge surgeons to their knees, are making no effort to remove the obstacles to a settlement. The members of the Victorian Branch are exhibiting patience and determination to achieve

what they recognized from the first to be their just demands. This steadfastness of purpose often requires strength of mind to maintain, since a section of the public, misunderstanding the essence of the dispute, has endeavoured to discredit the medical profession and to ascribe to it trade union practices which it does not follow. The members are to be congratulated on the excellent manner in which they have met this adverse criticism and have adhered to their principles. It will be remembered that the demand for improved conditions of service came first from the lodge surgeons and not from the Branch Council. The members determined years ago that they had suffered severely enough and long enough under the sweating government of the lodge executives. In New South Wales the medical profession got rid of the oppressive conditions of individual bargaining in 1914 and introduced a uniform or common form of agreement. The patients have learned that this arrangement is to their advantage, as well as to the advantage of the lodge doctors. It has often been urged that, had the old conditions been so unsatisfactory, medical practitioners would not have sought the appointments. As long as no organization existed to ensure better terms, the men had no choice; for with the great majority of practitioners a practice can only be built up on this basis. Moreover, it is possible to make a living in lodge practice at low rates, if the surgeon is willing to take on to his list a very large number of names. But it is universally admitted that it is to the detriment of both patient and doctor if one practitioner contracts to give medical attendance to an excessive number of families. The medical practitioners of Victoria consequently demanded the same satisfactory conditions of lodge practice as their colleagues in New South Wales had obtained about four years before. They instructed their Council to take the necessary steps to obtain these conditions, and on enquiry the Council found that there was complete unanimity on the subject. When the resignations of the lodge surgeons took effect on January 31, 1918, the medical profession was solidly united and to-day, notwithstanding the disappointments and the endeavour to drag the dispute into the political forum, we are gratified to note that this unanimity has remained unaffected. The few practitioners who have accepted positions

at the medical institutes, have placed themselves outside the pale of the profession. Many of these men were ineligible for membership of the British Medical Association before they accepted these appointments. The indications are clear that the medical profession in Victoria will stand as a united body and will refuse to enter into any arrangements with the lodges until the lodges intimate to the Council that they are prepared to accept the model lodge agreement.

PREHISTORIC TREPHINING.

The operation of trepanning the skull was frequently performed in the Neolithic period, especially in Western Europe. Within the last decade increased interest¹ has been taken in this ancient surgical practice, owing to the discovery of a number of prehistoric skulls which have been trephined twice, thrice or even four times. The revival of anthropological research has greatly augmented the number of ancient skulls available for observation, and has provided much information about the conditions under which the skulls have been found. The careful examination of the strata in which the skull has been unearthed has made it possible to attach some weight to the geological evidence of the age of the skull. From the number of trepanned skulls at present discovered there can be no doubt that the operation of trephining was not infrequently performed.

Some discussion has taken place as to whether the openings in the skulls were made during life. Some have alleged that these openings were made after death. It has been suggested that the skull was pierced to obtain portions of the cranial bones to be used as amulets. Such pieces of bone, detached by trephining, were preserved, and some have been found pierced for suspension and worn at the edges by long friction against the skin. In some skulls cicatrization in the marginal area of bone is so complete that no doubt can exist respecting the survival of the patient for years. In other skulls the signs of repair are completely absent, so that the cranium presents no testimony as to whether the removal of the bone has been done shortly before or after death. Since a number of skulls with several "perforations" have been unearthed it has been noted on several occasions that one or more of the holes have cicatrized margins, while one opening exhibits no signs of healing in the bone. Where large areas of bone have been removed, e.g., in the temporo-parietal region, examination of the bony edges furnishes no evidence that these extensive openings have been made before death.

The greater number of these trepanned crania have been discovered in France. One of the earliest trephined skulls unearthed was that obtained at Nogent les Vinages, in an ossuary in which there were no less than 900 skeletons. The celebrated anatomist and palæontologist, Georges Cuvier, described this skull and formed the opinion that the patient survived at least twelve years. The opening was ascribed to a wound or fracture. It was not until many years

¹ See *Journ. Path. and Bacteriology*, Vol. XXII., p. 90, January, 1918.

later that it was recognized as a trepanned cranium. Trephined skulls of Neolithic age have been found during the last forty years in Switzerland, Bohemia, Poland, Denmark, Thuringia and Sweden, and from the pile dwellings on the Lake of Brienne. In a Neolithic grave in Bohemia was found a skull trepanned for injury. It was that of a powerful man between 50 and 60 years old, who had a hole in the superior part of the calvarium measuring 40 mm. by 60 mm. and caused by a blow or fall. The anterior border of the aperture exhibited the action of pus. At the posterior margin cicatrization had proceeded a long way. The operation seems to have been performed to deal with the suppuration following the injury.

The holes due to the operation are usually regular in shape and more or less ellipsoid. They measure on the average 4 cm. across. The borders are sharp, oblique, bevelled from without inwards, and often the singularly compact surfaces produced by the growth of new bone show that healing took place and that the patient survived for years. Much speculation has been indulged in concerning the methods by which these apertures were made. Experiments have been made with flint instruments in the endeavour to reproduce the Neolithic surgery. The bone has been slowly scraped away, but the sloping border is greater than that found in the majority of Neolithic skulls. In another method straight or curved lines have been drawn on the skull and a sharp, flat instrument has been passed and repassed along the lines until the bone between becomes loose and can be removed. Lucas Championnière perforated the bone by rotating the point of a sharp flint. He then made a circle of perforations extending to the inner table. These were so close that they ran into one another. The openings were further connected by cuts with a sharp instrument so as to obliterate more or less completely the dentated border.

The operation of trephining has had a curious geographical distribution in historic times. There is no evidence that the Hindoos or the Chinese ever practised it. No specimen of a trepanned skull has been found in Egypt, nor among the Greeks or Romans. Some trephined skulls have been found in Gaul belonging to the epoch of the Roman civilization. In America the operation was not uncommon before the arrival of Europeans among the Redskins of the North and in the Empires of Mexico, Central America and Peru. At the present day the Kabyl tribes, but not the Arabs or Negroes in contact with them, certain Polynesian Islanders and the hill tribes of Daghestan practise this custom. In Peru the operation was performed by making four deep cuts and removing the more or less circular portion of bone situated between them. A prehistoric cranium in the Lisbon Museum shows an area of bone circumscribed by a deep furrow. The enclosed piece of bone measures 50 mm. by 40 mm.. The furrow does not penetrate the thickness of the bone, and lines and scratches round the groove show how the instrument slipped during the operation. In Kabylia at the present time the operation is performed by placing a white hot, funnel-shaped instrument over the region to be trephined. The piece of scalp set free is removed without much bleeding. A hole is made by spinning a drill between the palms of the hands. A saw cut is

made then beyond the hole. Next day the process is repeated until the piece of injured bone can be taken away. From fifteen to twenty days are needed to remove a bit of bone of the size of a penny. In New Caledonia, where trephining is practised by the natives for headache at the present day, the surgeon makes a crucial incision in the scalp and files away the bone with a cutting and sharpened shell.

In some Neolithic crania a small hole was drilled beside the larger aperture. Its object is a matter of much speculation. The holes were chiefly made in the parietal region and occasionally in the frontal area. Rarely did the prehistoric surgeon trespass on to the occipital bone. There seems to have been knowledge of the longitudinal sinus, and both prehistoric and barbarian surgeons avoided the sagittal suture. It has been suggested that, at the time when man was unacquainted with the use of iron, he knew enough anatomy to avoid the longitudinal sinus and was not unaware of the functions of the motor areas of the cerebral cortex.

RATS AND MICE.

Rats and mice have been associated with man from time immemorial. Since they are subject to similar pathological processes to those found in the human subject, it would appear probable that similar agencies would induce the same pathological changes in man and the accompanying rodents. The considerable part played by micro-organisms in the causation of disease renders it likely that both man and these rodents will be affected by the same diseases, and that possibly the infection may be transmitted from man to rats and from rats to man. Much evidence has been obtained respecting the part played by rats in the dissemination of plague. It is now known that an epidemic of plague in rats accompanies the epidemic among mankind. The *Bacillus pestis* is carried from the infected rats to man by means of fleas.

Much information respecting rats and mice, their habits, diseases and parasites is contained in the Presidential Address delivered by Dr. J. Burton Cleland to the Royal Society of New South Wales last May. Since the outbreak of plague in Australia in January, 1900, much work has been carried out by the various Departments of Public Health in the different States. In the address this information has been brought together and analysed, so that conclusions of much value can be obtained. The species of rats and mice dealt with in this account comprise only the two common rats, *Epimys rattus* and *Epimys norvegicus*, and the common house mouse, *Mus musculus*. *Epimys rattus* is the so-called old English black rat. It is essentially a house and climbing rat. It has larger, thinner ears and a longer tail than the Norway rat, which has been designated the sewer rat. In regard to the distribution of these rats, they are present in Sydney in about equal numbers. In the North Coast district, along the Clarence River the Norway rat greatly predominates. In Queensland it is stated that *E. norvegicus* is four times as common as *E. rattus* at Brisbane and Rockhampton, but at Townsville and Cairns *E. rattus* is the more common; in Melbourne the Norway rat is the only rat found in the city itself, but black rats are found about the wharves and shipping. In Ade-

laide the Norway rat was more common than the black rat, but Mr. E. R. Waite, of the South Australian Museum, drew attention in 1916 to the large numbers of black rats which had appeared in Adelaide. In Western Australia the black rat is the only rat met with in Perth, except adjacent to the water frontage of the Swan River, where the Norway rat is also found. At Fremantle the Norway rat occurs only near the wharves.

Many observations have been made on the number of rats born in each litter. Observations were made on 745 specimens of the black rat, yielding 4,966 fetuses. It would appear that seven is the usual number born on one occasion. With the Norway rat nine is the most common number of fetuses found in a pregnancy. In mice the usual number is four.

A record has been kept of the rats and mice found on fumigation by the Commonwealth Department of Quarantine on vessels. The records deal with 325 voyages made by 189 vessels. The black rat was present in 293 and absent in 32 instances, the Norway rat was present in three and absent in 322 instances. Mice were present in 53 and absent in 272 instances. The largest numbers of black rats found at the end of a voyage were 90, 71 and 68. In the majority of cases the number of rats caught was under ten; the number of Norway rats caught were four, two and one. The largest number of house mice caught were 95, 55 and 37.

The special diseases associated with rats which have been observed in the half million specimens which have been examined in the Bureau of Microbiology of Sydney since the outbreak of plague in 1900 have been plague, noted from 1900 to 1910, and rat leprosy, noted from 1904 to 1912. In the half million rats examined there have been found 26 examples of malignant growths.

The ecto-parasites of these rodents met with in Australia comprise fleas, bed-bugs, lice and species of acarina. The fleas which have been identified have been *Lamopsylla cheopis*, found upon 4,863 occasions, *Ctenopsylla musculi*, found on 3,370 occasions, *Ceratophyllus faciatus*, taken upon 1,380 occasions, *Ctenocephalus canis*, found 61 times, and *Pulex irritans*, collected upon three occasions. In Queensland *Lamopsylla cheopis* comprise from 90% to 100% of the fleas on rats. This flea, as is well known, is recognized as the plague flea. It is most abundant in February and March. Up to the present it has never yet been caught upon man in Australia, though the occurrence of plague indicates that this flea does bite man upon occasions. Bed-bugs in all stages of development have been found on the rats collected from 1902 to 1911. Dr. Cleland is of opinion that these bugs may only have become associated with the rats after the death of the rat.

Among the protozoal parasites that have been found in rats and mice in Australia have been *Trypanosoma lewisi*, which was noted by Tryon in Queensland, by Harvey Johnston and Cleland in Sydney, and by Cleland in Perth, *Hepatozoon muris* and *Spirocheta ratti*. Dr. Harvey Johnston has recorded the various species of helminths found in rats and mice of Australia. Three of these have a special interest. *Trichinella spiralis* occasions disease in man by its transmission through pork. *Gongylonema neoplasti-*

cum gives rise to irritation of the mucosa of the alimentary canal leading to a papillomatous condition and finally to the presence of carcinoma. *Heptaticola hepatica* gives rise to curious yellow spots in the livers of rats. In these areas collections of the ova of the worms are deposited.

A description is given of various visitations of rats and mice in the country districts, which have given rise to plagues. Many of these visitations have had their origins in the centre of Australia, whence countless hordes of rodents have migrated towards the coast. Sooner or later starvation and disease arrest the plague.

Public Health.

NEW SOUTH WALES.

The following notifications have been received by the Department of Public Health, New South Wales, during the week ending September 21, 1918:—

	Metropolitan District.		Hunter River Combined District.		Rest of State.		Total.
	Cs.	Dths.	Cs.	Dths.	Cs.	Dths.	Cs. Dths.
Enteric Fever ..	4	0	0	0	4	0	8 0
Scarlatina ..	160	0	0	0	9	0	69 0
Diphtheria ..	26	2	14	1	31	1	71 4
*Pul. Tuberculosis	26	9	0	0	0	0	26 9
C'bro-Sp'l Menin.	6	1	0	1	1	0	7 2
Malaria ..	2	0	0	0	0	0	2 0
Poliomyelitis ..	1	0	0	0	0	0	1 0

† Fifty of these cases occurred on the Training Ship *Tingira*.
* Notifiable only in the Metropolitan and Hunter River Districts, and, since October 2, 1916, in the Blue Mountain Shire and Katoomba Municipality.

VICTORIA.

The following notifications have been received by the Department of Public Health, Victoria, during the week ending September 22, 1918:—

	Metropolitan.		Rest of State.		Total.
	Cs.	Dths.	Cs.	Dths.	Cs. Dths.
Enteric Fever ..	0	0	2	0	2 0
Scarlatina ..	21	0	27	0	48 0
Diphtheria ..	63	4	53	1	116 5
Pulmonary Tuberculosis	30	13	5	2	35 15
C'bro-Spinal Meningitis	0	—	1	—	1 —

QUEENSLAND.

The following notifications have been received by the Department of Public Health, Queensland, during the week ending September 21, 1918:—

Diseases.	No. of Cases.
Enteric Fever ..	5
Scarlatina ..	9
Diphtheria ..	31
Pulmonary Tuberculosis	11
Puerperal Fever ..	1
Erysipelas ..	3

SOUTH AUSTRALIA.

The following notifications have been received by the Central Board of Health, Adelaide, during the week ending September 14, 1918:—

	Adelaide.		Rest of State.		Total.
	Cs.	Dths.	Cs.	Dths.	Cs. Dths.
Scarlatina ..	5	0	15	0	20 0
Diphtheria ..	2	0	19	2	21 2
Pulmonary Tuberculosis	1	5	6	2	7 7
Erysipelas ..	0	0	5	0	5 0
Morbili ..	0	0	1	0	1 0
Pertussis ..	2	0	22	0	24 0

Abstracts from Current Medical Literature.

OPHTHALMOLOGY.

(108) Headache for Eyestrain.

John Dunn endeavours to find a reason why some people, with an optical error, suffer in varying degree from headache and others, with an equal error, escape (*Archives of Ophthalmology*, March, 1918). Headaches, says the author, are a manifestation of intra-ocular tension. He quotes Weed, thus: "The mechanism of the cerebral pressure relations are such that the cerebro-spinal fluid pressure is continually being reduced to that of the venous circulation, and, in consequence, there must be a constant absorption of the fluid to compensate for the constant secretion." The posterior lobe of the hypophysis probably secretes a substance which has an influence upon the permeability of the cerebro-spinal fluid. The symptom of temporary high tension, which results from reflex dyspittuitarism is headache. The hypophysis responds reflexly, not only to changes in pressure upon the cortical cells, but also upon the retinal ganglion cells. Some of the aqueous fluid finds its way backward between the hyaloid and the inner surface of the retina and regulates the pressure on the ganglia in the act of accommodation. Refractive errors, causing over or under activity of the ciliary muscle, create a response in the activity of the aqueous secretory glands and result in disturbance of the normal state of intra-ocular tension, especially if the excretory system is imperfect. This rise in pressure affects the ganglion cells and then reflexly the secretory activities of the hypophysis, and hence increased intracranial tension and headache. Clinical experience proves that there is a connexion between disturbed ovarian function and headache. This is true also for constipation, digestive disorders and foci of infection, which must have an ill-effect on the hypophysis or upon the ciliary muscle or on both. It would appear that some patients must have a "wet brain," with varying high intracranial tension—a sort of cerebral glaucoma.

(109) Eczematous Kerato-Conjunctivitis.

A. Bernard Cridland deals with eczematous kerato-conjunctivitis, to which the name phlyctenular is very commonly, if incorrectly, applied (*Brit. Journ. Ophthalmology*, April, 1918). When the cornea is involved, four clinical pictures are produced, viz.: (1) eczematous infiltration, (2) round eczematous ulcer of cornea, (3) eczematous *ulcus migrans* or fascicular keratitis, and (4) eczematous pannus. The incidence of the disease varies with locality, from 1.2% in Oxford to over 7% in Wolverhampton and Glasgow. Overcrowding in itself does not appear to be a causal factor, but malnutrition certainly is. The etiology has been exhaustively studied, and the present opinion is that it is an

"ocular manifestation of a toxæmia which, in many cases, is undoubtedly tuberculous, but in a number, probably mild cases only, is of gastro-intestinal origin, the exact nature of which is unknown." In treatment it must be remembered that the patients are practically always of the poorer hospital class. Yellow oxide of mercury ointment, with light massage, still holds first place in value. Powdered calomel is also useful, and antiseptic lotions, or silver preparations, if necessary, may be employed. Atropine is seldom necessary, except in the case of deep ulcers. Subconjunctival injections have often been beneficial, especially in obstinate cases, also solution of diionin. The general treatment is equally important, especially "light, air, movement and nutrition." Grey powder or calomel internally is extremely beneficial; also cod liver oil, with phosphate or iodide of iron. The diet should contain less starch and more meat, vegetables and fruit. Tuberculin should be reserved for the more advanced and obstinate cases, and, lastly, the refraction should be estimated and correction glasses worn, if necessary.

(110) The Eye in Nervous Disease.

Ward H. Holden describes the examination of the eye in nervous diseases under six headings: cornea, pupils, muscles, vision and fields, optic disc and arteries, and other anomalies, as exophthalmos (*Archives of Ophthalmology*, May, 1918). Insensibility of the cornea means a lesion of the fifth nerve, a lesion of the cerebellum of that side, compressing the fifth nerve, or hysteria. The usual pupillary reflexes are described. A reminder is given about the symptom complex, contraction of the pupil, narrowing of the palpebral aperture and sinking of the eyeball, which results from injury or pressure on the cilio-spinal centre at the level of the last cervical and first dorsal vertebrae. In these cases of pupillary contraction from sympathetic paralysis, cocaine does not dilate the pupil and the sight is not affected. Meningeal irritation produces contraction of both pupils, and pressure on the third nerve nucleus or its fibres causes dilatation of the pupil and loss of accommodation. The Argyll-Robertson pupil is partly explained as a break in the arc when the fibres of the primary visual centre (the external geniculate bodies) connect with the sphincter nucleus. It is almost without exception a symptom of syphilis. Nystagmus acquired late always has significance. Nystagmus on looking upwards often indicates a mid-brain growth, and precedes a paralysis of the superior rectus muscle. Marked nystagmus on looking to one side often means a pontine lesion. If coarse and slow to one side and fine and rapid to the other, it usually means a cerebellar lesion on the side of the coarse movement. It occurs in disseminated sclerosis. The site of the lesion in ocular palsies is generally in the nucleus. The sixth nerve is first involved, then the third, and then the fourth. External rectus paralysis has no great localizing value. It may result from increased

intracranial pressure or from compression of the nerve trunk by a cerebellar artery. Contraction of the field of vision is found in four types: (1) concentric contraction, which is the rule in simple and post-neuritic atrophy; (2) central scotoma, which suggests affections of the papillo-macular bundle, and occurs in disseminated sclerosis; (3) bi-temporal hemianopsia, common in pituitary lesions; (4) homonymous hemianopsia, which indicates a post-chiasmal lesion, often in the calcarine fissure, as frequently seen in the present war injuries. The so-called hemianopic pupillary reaction should be discarded. Optic atrophy suggests tabes or pressure in the pituitary region; papilloedema begins by a blocking of the passage from the third ventricle to the fourth, thence over-accumulation of liquid in the third and lateral ventricles and distension of the optic nerve sheath.

(111) Eye Changes in Spirochætosus Ictero-Hæmorrhagica.

L. Weekers and J. Firket publish an account of the ocular manifestations of this war disease, the general symptoms of which have been described by many observers (*British Journ. Ophthalm.*, March, 1918). It is known as relapsing febrile jaundice, hepatic typhus, and Weil's disease, and the causal spirochæte has been described by Japanese scientists. The general symptoms are rapid onset, shivering, headache, muscular pains, hyperæsthesia of skin, pain in the eyeballs. There is fever and great prostration and jaundice on the fourth or fifth day. The spirochæte is found in the blood and urine. Redness of the eyes has been noted by most writers, but its significance has not been recognized. As well as conjunctival, there is ciliary congestion. The authors have examined 50 cases and have found the following eye changes: simple hyperæmia of the anterior segment of the eyeball, congestion of the iris, iritis with exudation, sometimes forming synechie, optic neuritis, retro-ocular neuritis, ocular herpes with corneal lesions, conjunctival jaundice and subconjunctival hæmorrhage. Ocular hyperæmia is the commonest sign, and occurred 46 times in the 50 cases. It appears at the onset, or in the first few days. Iritis occurred in nine cases, usually mild in type, and optic neuritis in two cases.

LARYNGOLOGY AND OTOTOLOGY.

(112) A New Symptom of Labyrinth Fistula.

In a description of four cases of labyrinth fistula, in which the ordinary symptoms were uncertain or entirely absent, S. H. Mygind announces the presence of a symptom which gave valuable indications (*Journ. Laryng., Rhin. and Otolology*, May, 1918). This consists of a gentle rocking to and fro of the bulb synchronously with the pulse. There is an excursion to the affected side and back with each beat, which is more readily seen when the patient looks straight out through the biconvex spectacles of Bartels. The movements are considered by Mygind to

consist of two slow phases of oppositely directed nystagmus. When the carotid artery on the affected side is compressed in the neck, definite nystagmic movements are elicited, viz., a slow phase to the sound side, followed by a quick phase to the diseased side. On removing the pressure a slow movement to the affected side is succeeded by a rapid movement to the sound side. The nystagmus is accompanied by giddiness. In each of the patients described a fistula filled up with granulations was found in the external semi-circular canal. One of these patients gave an "inverse" fistula symptom by the usual test, but was regular to Mygind's test. After operation the spontaneous movements of the eyes disappeared. The "fistula symptom without any fistula" can sometimes be elicited in syphilitic patients, and, in these cases, there may be abnormal vascularization in a labyrinth, the stapes of which is capable of giving way to an abnormal degree. In some of these cases nystagmus has been noticed to follow pressure on the neck, but it has not been shown that such eye movements are due to a mechanism corresponding to that of the movements produced by compressing-aspirating in the external meatus. This mechanism Mygind believes to exist. The author is of opinion that the directions of the nystagmus produced by his method, in opposition to the ordinary fistula symptom, give a more reliable basis for the differential diagnosis between a fistula leading to the vestibule and one to the external semicircular canal. In the former case pressure on the carotid artery causes a slow phase to the diseased side and a quick to the sound side, its removal brings about an opposite result. In the latter case pressure on the carotid artery excites a slow phase to the sound side and a quick phase to the diseased, with a reversal of the nystagmus on release of pressure. Thus the carotid pressure generally acts like aspirating in the ear duct, the cessation of it as the compressing. Pressure on the carotid on the sound side will enable the examiner to differentiate between a giddiness due to an irritation of the labyrinth and one due to an anaemia of the brain.

(113) Two Plastic Facial Operations.

(a) The formation of the upper half of the bridge of a nose is described by Captain H. D. Gillies (*Journ. Laryng., Rhin., Otolology*, September, 1917). The loss of tissue comprised: (1) the nasal bones, underlying portion of septum, frontal spine, and upper portions of nasal process of superior maxilla; (2) the skin that should cover this, and (3) the right eye. A bare area 12 mm. square had to be covered. At the first operation the scar was excised, a resected part of the perpendicular plate of the ethmoid was swung forward to form a bridge, and sutured with catgut to the septum of the lower nose. Two lateral flaps from the cheeks were cut, undermined, and sutured over the bridge with fine interrupted silk. An excellent cosmetic result was secured, but the bridge gradually sank, failing to support the contracting skin-flaps. At

a second operation three months later, through a small incision the skin was carefully undermined from below upwards to the frontal bone, and here the tissues were incised to the bone. A piece of rib cartilage was next excised, fashioned and inserted under the skin and periosteum, its lower end being made to rest on the septum of the lower nose. Catgut sutures were inserted to keep it central, and a wire retention suture introduced, passing from base to base of the flaps (thus traversing the nasal cavities), the ends of which were knotted over small plates on the skin. With the fitting of an artificial eye the result was very satisfactory. (b) To remedy an unsightly depressed scar resulting from the loss of a malar bone and to restore the facial contour the anterior half of the origin of the temporal muscle was exposed through a U-shaped incision in the hairy scalp, elevated from the bone, separated from the hinder half by scissors from above downwards, detached from the zygoma and temporal fascia, passed under the bridge of skin, and sutured to the deep tissues below the eye. The blood and nerve supply not having been seriously interfered with, the transplanted muscle could be made to contract, and gave a colourable imitation of the action of the paralysed *orbicularis oculi*. Mastication was not interfered with. Drainage of the hollow in the temple was necessary.

(114) Hay Fever.

That at least 80% of hay fever patients receiving pollen vaccines may expect considerable relief or entire freedom from symptoms through their season is the assertion of A. Parker Hitchen (*Laryngoscope*, December, 1917). The exact varieties of pollen to which an individual is hypersusceptible may be ascertained by a simple skin test, using a tablet triturate of pollen. At the end of an hour it is found that an area of redness has appeared which, in negative cases, has not increased in size at the end of 24 hours. Prophylactic injections, with an initial dose of extract containing 0.0025 mg. nitrogen, given two or three months before the season, with subsequent injections at five to seven days' interval, have sometimes succeeded in conferring immunity. During the season injections are generally required every five days, and, in some cases, even daily.

(115) Medicated Eustachian Bougies.

Lee M. Hurd's method of preparing medicated Eustachian bougies is described in the December, 1917, issue of the *Laryngoscope*. He prepares a saturated solution of gum acacia in a narrow test tube in a water bath, and adds a solution of silver nitrate, to make a solution of from 1% to 10% strength of silver as desired. A number of celluloid bougies are dipped 3.5 cm. into the solution, and, when uniformly coated, are placed to dry, and then a second coating given. When dry the coating looks and feels like varnish, and will last a week or more if kept dry. To apply, a plain gum-elastic or celluloid bougie, of the proper size, is passed

through the tube, to make sure of the position of the catheter and to dilate the tube; then the plain bougie is withdrawn and the silvered bougie introduced. About a two-minutes' application suffices to dissolve the gum and deposit a definitely known percentage of silver nitrate at the place desired.

(116) War Injuries of the Ear.

The morbid anatomy of four cases of "explosion" injury of the ear has been carefully studied by J. S. and John Fraser (*Journ. Laryng., Rhin., Otolology*, December, 1917). They conclude that the only important changes found were: (1) Rupture of the drum-head (in three cases) and hæmorrhage into the middle ear spaces; (2) hæmorrhage in the fundus of the internal meatus (in three cases). In one of the cases there appeared to be signs of an early stage of "degenerative neuritis," in two cases the neuro-epithelial structures appeared normal. They admit that many cases of explosion deafness may be due to functional affections, but hold that rupture of the drum-head and hæmorrhage into the middle-ear spaces must cause some loss of hearing, while hæmorrhage into the fundus of the internal meatus may give rise to deafness, tinnitus, giddiness, and other symptoms of an inner-ear lesion. They suggest that the "blow" to the ear due to shell explosion, and the associated loud sound, paralysed the delicate nerve endings of the auditory apparatus.

(117) Atresia of the Choanæ.

A method of maintaining the patency of the posterior choanæ after operation for atresia has been successfully used by A. J. Brady (*Journ. Laryng., Rhin., Otolology*, February, 1918). A long, folded strip of thick bismuth gauze was passed down one nostril and around the posterior edge of the septum, and withdrawn through the other nostril, the ends being tied together across the columella. This was replaced daily for two weeks by sewing a fresh strip of gauze to one end of that in the nose, and drawing on the opposite end to secure the fresh strip in position. Bismuth gauze is very suitable for intranasal dressings after operations, on account of its non-adherence to the tissues, and its freedom from decomposition.

(118) Rosenmueller's Fossa.

In discussing diseases of the fossa of Rosenmueller, Sidney Yankauer (*Laryngoscope*, December, 1917) asserts that considerable nasal obstruction may follow the removal of hypertrophied adenoids through the formation or non-removal of adhesions. Secretion pouring over the tip of the Eustachian eminence, when in front of the salpingo-nasal fold, is indicative of disease of the posterior group of nasal sinuses, secretion in the fossa behind this fold, particularly when associated with adhesions in this region, may suggest disease of these sinuses, though the latter be quite healthy. A fossa with obstructed drainage may be the focus of a general systemic infection, or give rise to reflex nasal and laryngeal neuroses.

British Medical Association News.

SCIENTIFIC.

A meeting of the Queensland Branch of the British Medical Association was held at the B.M.A. Room, Adelaide Street, Brisbane, on August 2, 1918, Dr. J. Esple Dods, the President, in the chair.

The President welcomed Drs. A. E. Mills and R. Gordon Craig, and also Colonel E. S. Stokes, of Sydney, who were present as visitors.

Dr. A. E. Mills read a paper on "The Symptomatology of Disorders of the Stomach from a Physiological Aspect." This paper was illustrated by lantern slides, the lantern being kindly lent and operated by Mr. C. J. Pound. The text of this paper appears on page 279.

Dr. A. Gordon Craig read a paper entitled "Some Notes on Gastric Surgery." The text of this paper appears on page 282.

Dr. W. F. Taylor tendered his thanks to Drs. A. E. Mills and Gordon Craig for their papers, which he considered very instructive. He thought that the pain was sometimes due to visceral gout, and he thought this cause of pain should be considered, although Dr. A. E. Mills had not mentioned it.

Dr. W. N. Robertson thanked both visitors for their papers, and recorded his appreciation of the addresses. He was glad to hear that Dr. Gordon Craig had recognized the part played by the nose and throat surgeon in the treatment of gastric ulcer.

Dr. F. Howson congratulated Dr. A. E. Mills on his paper, but thought that there must be some other cause than hyperacidity for gastric pain. There was probably some stimulus acting upon the neuro-muscular mechanism. Hyperacidity would cause relaxation, and thus relieve pain.

Dr. Wilton Love said that the physiology of the stomach that was taught 30 odd years ago, had to be re-learned. The investigation of the stomach by X-rays after opaque meals had revolutionized their knowledge of gastric disorders. He had always felt that the explanation of gastric pain was insufficient. He was prepared to admit that streptococci were the indirect cause of ulceration, but he considered that there must be some trophic influence which allowed the organism to initiate the trouble. He had seen nervous patients in whom the *incisura* was well marked. Stroking the stomach and the exhibition of belladonna had not always resulted in the disappearance of the *incisura*. It was difficult in private practice to have a sufficient number of exposures of the patient to X-rays. He thought that it was most important for the surgeon and the radiographer to co-operate in these cases.

Dr. R. F. C. Brunnich said that it was a pleasure to hear again his old lecturers. He had examined pus from teeth and he had obtained pure cultures of streptococci. These streptococci could easily enter the blood from the walls of ulcers round the teeth.

Dr. M. S. Patterson wished to know why digestion of the stomach by itself did not occur.

Dr. L. M. McKillop said that he had had the pleasure of being taught by both Drs. A. E. Mills and Gordon Craig. In regard to pain caused by tension, he had attended a patient with a fistula of the gall-bladder, which filled up and discharged from time to time. The pain was relieved by discharge. Removal of the gall-bladder cured this patient. He was of opinion that patients recovered more quickly when no clamps were used in performing gastro-enterostomy.

Dr. Burton Bradley was interested in the work of Rosenow on streptococci, particularly in its relation to pollomyelitis. If these observations were confirmed, it would represent a great advance in their knowledge. Streptococci were capable of causing different diseases, and they seemed to belong to definite groups. Strong criticism had been directed against the work of Rosenow on pollomyelitis, in which he claimed to have invariably isolated streptococci and in which he stated that he could convert these micrococci into the virus of Flexner. There was normally present in the blood an antibody which prevented digestion of the tissues. Dr. Burton Bradley also wished to point out that the administration of normal horse serum which contained suitable antibodies had cured many cases of gastric ulcer.

Dr. A. C. F. Halford thanked Drs. Mills and Craig for their papers. He was particularly interested in the aetiology of

gastric ulcer. He had a strong leaning towards theories of haematogenous infection as a cause of the condition. He thought that infection by streptococci was often carried from one place to another. The streptococcus was an extraordinary micro-organism. He had noticed its presence in cases of bubonic plague. He believed that streptococci could cause gastric ulcer and that the infection was carried by the blood. He often noticed that pneumonia in children was preceded by gastro-intestinal disturbance.

Dr. A. E. Mills, in reply, thanked members for their reception of his paper. He appreciated the discussion, which showed that members were mainly in agreement with him. He thought that the pain mentioned by Dr. Taylor was a mild form of angina, because it came on with excitement and exertion. When pain was observed after exertion, and particularly when it radiated down the left arm, it was anginal. He thought that hyperacidity, as found clinically, was of a mild grade, and not as great as that produced experimentally. Those who suffered in this way from a slight increase of acidity of the gastric contents, were very nervous patients. The terms ulcer and death of tissue were synonymous. Thrombosis of the blood-vessels was due to infection by micro-organisms. In the majority of cases in which an ulcer was present, the *incisura* was permanent. He thought that where two organisms were present the resistance was lowered by one of them and that the other multiplied and caused symptoms. He considered this to be symbiosis.

Dr. R. Gordon Craig said, in reply to Dr. Love, that he did not claim that streptococci were the sole cause of gastric ulcer, but that this organism was always concerned in the process. He thought that the X-ray worker and the surgeon were absolutely complementary. He wished to urge that gastro-enterostomy should be done without clamps. He thanked members for their close attention to his paper.

The President said that he was sure that the meeting would agree that this was the most important and instructive meeting that the Branch had ever held. He called for a vote of thanks to Drs. A. E. Mills and Gordon Craig, which vote was carried by acclamation.

MEDICO-POLITICAL.

A meeting of the New South Wales Branch was held at the B.M.A. Building, 30-34 Elizabeth Street, Sydney, on September 27, 1918, Dr. A. A. Palmer, the President, in the chair.

The Chairman announced that Dr. F. P. Sandes and Dr. R. H. Todd had been elected the members representing the New South Wales Branch on the Federal Committee of the British Medical Association in Australia.

The Honorary Secretary announced that Professor R. J. A. Berry, of Melbourne, would deliver two lectures on the problem of the unfit at the Union Hall, University of Sydney, on October 8 and 10, 1918, at 8 p.m. The lectures were arranged by the Sydney University Extension Board. He invited members to attend the lectures.

With the permission of the President, the Honourable J. B. Nash made an appeal for support of the Lord Mayor's Fund for the Soldiers' Dependents.

Hospitals.

CHARTERS TOWERS DISTRICT HOSPITAL.

The Board of Management of the Charters Towers District Hospital have presented to the Life Governors and contributors their annual report for the year ending December 31, 1917. This forty-fifth annual report contains a medical report of the work done during the year and a duly audited statement of receipts and expenditure.

The report of the Resident Medical Officer, Dr. T. R. Edmeades, shows that 72 patients occupied beds in the hospital at the close of the previous year. During the year 1917 507 male patients and 417 female patients were admitted to the wards. During the same year 463 male patients and 402 female patients were discharged, 52 male patients and 23 female patients died and 38 male patients and 18 female patients occupied beds in the hospital at the close of the year 1917. Of the 75 deaths, 17 occurred within 48 hours of the admission of the patient to hospital and 24 deaths were of patients over 70 years of age. The number of out-patients

attending for treatment was 3,710, the number of attendances during the year being 11,855 and the daily attendance of outdoor patients averaging 32. There were made 148 X-ray examinations and 124 bacteriological and other laboratory tests. In respect to the diseases from which the patients were suffering, it may be noted that 206 patients, with 20 deaths, are classified as suffering from general diseases, 72 patients, with 11 deaths, from diseases of the nervous system and organs of special sense, 45 with five deaths from diseases of the circulatory system, 100 patients, with 12 deaths, from diseases of the respiratory system, 165 patients, with four deaths, from diseases of the digestive system, and 95 patients, with five deaths, from diseases of the genito-urinary system other than venereal diseases. Thirty-five patients, with one death, were admitted after parturition. Seventy-four were affected with diseases of the skin and cellular tissue, 23 patients, with one death, exhibited diseases of the bones or of the organs of locomotion, and 130 patients suffered from affections caused by external causes, three lesions proving fatal. Six infants suffered from the diseases of early infancy, with one death. Thirty persons were admitted exhibiting the effects of old age, and eleven of these persons died. A table gives the name, age and residence of those patients who died in the hospital during the year; the date of admission and of decease is also added to the table. During the year 424 operations were performed under general anaesthesia and 282 minor operations were carried out without an anaesthetic. The list of operations show that 64 were undertaken for the removal of tonsils and adenoids and 30 for the removal of adenoids alone. Appendicectomy was carried out on 38 occasions and was combined with operations on the female generative organs in 17 other cases. Circumcision was performed 22 times and curettage 20 times. Fractures were set on 17 occasions, and six dislocations were reduced. Two fingers, two toes, an arm and a leg were amputated.

During the year steps have been taken to erect a new kitchen and laundry, at a cost of rather more than £2,500. A septic tank has been ordered, at a cost of £230, and, if found successful, a larger tank for the treatment of the drainage from the rest of the institution will be erected. The Board of Management has succeeded in arranging for the treatment of patients suffering from infective diseases upon a more satisfactory basis. In place of agreements for the payment for the treatment of all such cases by the local authorities, the Department of Public Health has brought into existence "The North Kennedy Joint Hospital Board." This Board pays the Charters Towers District Hospital for the treatment of all patients sent to it, and, in return, the hospital is bound to treat all such patients. This agreement is stated to be satisfactory. The hospital has no longer any doubt as to payments for infectious cases, and infection is prevented from spreading, while such friction as formerly existed has been made impossible. The expenditure of the hospital amounted to £9,222, while the gross revenue reached the sum of £7,746. The ordinary expenditure for the year was £6,677, the additional expenditure being for the erection of the new laundry and kitchen. The Board of Management expressed its thanks to the Honorary Medical Staff for their valuable services to the Hospital and recognized the efficient and satisfactory work of the Resident Medical Officer. They also placed on record their deep appreciation of the services now being rendered to the Empire by Dr. R. B. Huxtable and Dr. W. R. Kelly, both of whom were formerly Resident Medical Officers. These medical men are engaged on active service at the front.

THE PUBLIC HEALTH ADMINISTRATION IN NEW SOUTH WALES.

(Continued from page 235.)

An outbreak of pleura-pneumonia occurred early in the year among the dairy herds. This epidemic was arrested by the inoculation of all cows, carried out at the instigation of the Dairymen's Association. Some concern has arisen on account of an outbreak of contagious mammitis. Efforts to cope with the outbreak were being made at the time of the compiling of the Veterinary Inspector's report. The inspection of meat in the Metropolitan and Hunter River Districts is controlled by specially appointed Boards.

General Sanitation.

The responsibility for the proper sanitary condition of dwelling houses and other premises belongs to the Department, and the work in this connexion is carried out by a Chief Sanitary Inspector and four assistants. Under the provisions of the *Public Health Amendment Act, 1915*, 73 of the local authorities obtained powers to declare any house building unfit for habitation on the certificate of their sanitary inspectors. The Department refuses to authorize the employment of unqualified sanitary inspectors for this purpose, and consequently undertakes the inspection and the issuing of certificates in all cases where the local authority does not appoint a qualified sanitary inspector. From the Chief Inspector's report it appears that his Department has the duties of investigating the source of infection in certain infective diseases. In one instance a young man convalescing from scarlatina paid a visit to a friend and passed the disease on to an inmate in the house. He was prosecuted and fined £5 and 6s. costs. One of the Metropolitan Councils had failed to forward to the proper authority about 150 notifications of infective diseases. Enquiry elicited the fact that the inspections had not been made of infected dwellings, and that disinfection had not been enforced. The Department withdrew its approval of the appointment of the Sanitary Inspector and discontinued the payment of part of his salary. As the Council was apparently unaware of the neglect, no prosecution was instituted. The Council dismissed the Sanitary Inspector and appointed a competent officer in his place.

At Narrabri the local Sanitary Inspector refused to be vaccinated, and contracted small-pox while carrying out his work of disinfecting infected premises. This man attended to his usual duties after the small-pox rash had manifested itself. He was prosecuted on this account, and fined £2, with 8s. costs and £3 3s. expenses, for exposing himself while suffering from an infectious disease.

Systematic inspection was carried out in 18 country towns. The reports contain, in addition to descriptions of the sanitary administration, water-supply, disposal of sewage and liquid waste, collection and disposal of night-soil and garbage, meat and food supplies, noxious trades, cemeteries, hospitals, insanitary buildings and areas, pollution of streams, sanitary condition of hotels, infective diseases, disinfection and vital statistics, recommendations for dealing with breaches of the Acts and Ordinances. Proclaimed areas and unhealthy lands were inspected on 107 occasions; four existing proclamations were revoked and six draft proclamations and plans of unhealthy areas were prepared. The Chief Inspector records the number of hotels and picture shows inspected, the number of samples of various material collected and submitted for analysis, and various other activities. He fails, however, to give any indication in the body of the report of the condition of these premises and sites, etc. A table is published giving the details of the licensed noxious trades and classifying the efficiency of the supervision by the local authority as good, fair or poor. The value of skilled inspection of the sanitary conditions of premises can scarcely be overrated, but the information concerning these inspections is valueless, unless it contains an account of the defects discovered and a comparison between the existing conditions and those that obtained in previous years.

Local Sanitary Authority.

Part II. of the report comprises the annual report of the Medical Officers of Health of the Metropolitan Combined Sanitary Districts, the Hunter River Combined Sanitary Districts and Broken Hill and District. An endeavour will be made to find space in these columns at some future date for a summary of these three reports.

The Microbiological Laboratory.

Part V. of the report takes the form of a report by the Principal Microbiologist, Dr. J. Burton Cleland, and includes a summary of the routine work performed, and nine articles, some of which have been published elsewhere.

Routine Work.

The staff of the Laboratory examined a very large amount of material submitted from various institutions. The total number of examinations was 18,265. Of these, close on 8,000 were examinations of rats for plague. In another part of the report mention is made of the fact that these examina-

tions all yielded a negative result. A long list of diseases is appended, under the heading of "Microbiological Examinations of Material from Diseased Persons and Animals." Some information is added concerning the specimens submitted for the confirmation of the diagnosis of actinomycosis, anthrax, favus, malaria, plague, tetanus and tinea, and from this it appears that the diseases named in the list were suspected, but not necessarily present. The remainder of the record of the routine work consists in an enumeration of the culture media prepared, the places to which these media were sent, the number and kind of vaccines prepared and issued and the number of bottles of lactic acid bacteria, to be used as butter starters, prepared and the persons or institutions to whom they were issued. This information occupies over four pages of foolscap.

Investigations.

The first chapter of that part of the report dealing with the investigational work has to do with the examination of rats and mice in connexion with plague. The ecto-parasites collected from these rodents are classified and enumerated, and a table is appended giving a result of these investigations during the greater part of the period since May 1, 1903. Since 1911 no infected rats or rat fleas have been encountered.

Mr. C. N. Douglas, a fifth-year medical student, gives a short account of the routine examination of blood serum for the Widal reaction and of various body fluids and excretions for the cultivation of the typhus bacillus. The same author gives an account of the routine examination for diphtheria bacilli of mucus removed from the throat of persons by means of swabs and of the routine examination for tubercle bacilli in sputum. Dr. Burton Bradley recounts some investigations carried out in connexion with a person found to be a carrier of typhoid bacilli. He also gives a short note on the complement fixation test for syphilis.

The sixth contribution is an article on the history and clinical course of dengue fever in Australia, its experimental transmission by *Stegomyia fasciata* and the results of inoculation and other experiments. This article is a summary of a very long article which appeared in *The Journal of Hygiene*, of February 5, 1918, and is an extension of an article on the same subject published in the *The Medical Journal of Australia* of August 26 and September 2, 1916. The article covers 47 pages of the report.

The seventh article is a reproduction of an article entitled "A Contribution to the Experimental Pathology of Acute Poliomyelitis (Infantile Paralysis)," by Drs. A. W. Campbell, J. Burton Cleland and Burton Bradley, which was published in *The Medical Journal of Australia* of February 16, 1918. Dr. Cleland attaches on appendix on *Stomoxys calcitrans*.

The eighth contribution is a detailed account of vaccines prepared at the Department, while the ninth and last is a short note on hydatids.

Obituary.

DOUGLAS DUNBAR JAMIESON.

Douglas Dunbar Jamieson was born on July 5, 1879. As a schoolboy he distinguished himself from his comrades by qualities which developed in a remarkable manner in later life. He was one of those keen sportsmen, whose presence brought brightness and sunshine into its environment and whose large view of life endeared him to all with whom he came in contact. As a medical student he gained popularity by his brilliant wit. He entered the Melbourne University as last century was dying, and he soon attracted the attention of his teachers and the admiration of his colleagues. He was a frequent contributor of humorous sketches to the *Speculum*, and he is said to have been the author of many daring pranks and practical jokes, sometimes harmlessly directed against those who sat in high places. He was, however, always game to fire the bullets himself. Jamiesonian escapades were always talked and laughed over at any *réunion* of his fellow-students. He was a fine long-distance runner, and won many exciting races, more by grit than by any physical superiority over his competitors. He worked well, and his ready intelligence secured good places for him. He was a great reader, his chief delight being history and philosophy.

In 1904 he took his degrees in medicine and surgery, and soon after he was appointed House Surgeon at the Perth Public Hospital. He became very popular with the members of the honorary staff, as well for his personal as for his professional attainments. After a time he left Perth to take charge of the Laverton Hospital in the western State. He remained there for about two years, and gained the respect and affection of everyone. After leaving the west he settled in practice at Katoomba, in New South Wales. Preferring institutional to private practice, he left Katoomba in 1912 to take up the position of Medical Officer at the Stawell General Hospital, in Victoria. After the outbreak of war he joined the Australian Army Medical Corps, and received his commission in the Australian Imperial Force on July 14, 1915. He left Australia and served with the 8th Light Horse as Regimental Medical Officer. In this capacity he gained many distinctions, was awarded the Military Cross and won the golden opinions of everyone with whom he was associated. A near and dear friend of his states that he was worshipped by the men he accompanied on many fields of action. He was one of the bravest men ever born in Australia or elsewhere, honoured only half as much by decorations as he was worth. He was a real man in every sense of the word, and on the battlefield he was a hero. His death was intensely sad. He had finished his work in the Army, and was about to return home. At that time he was attached to the 14th Australian General Hospital. On July 17, 1918, he casually made an appointment with an air pilot to go for a flight. It was arranged for 4 p.m. on the following day. They had hardly reached 100 feet when something went wrong. The machine banked or side-slipped, and then crashed. Jamieson was injured and the pilot rendered unconscious. The latter recovered, but Jamieson's injuries proved fatal. He died on July 29, 1918. A large circle of friends sympathize deeply with his widow, and will miss the brave, cheerful man who did his duty fearlessly and nobly.

FRANCIS ERNEST DUNKLEY.

In our issue of September 14, 1918, we announced the death of Francis Ernest Dunkley, of Oakleigh, Victoria. About four years ago he had a severe attack of peritonitis, necessitating an operation. Although he recovered from the attack and the operation, his recovery remained incomplete, and he was compelled to submit himself to two further operative procedures. His life was despaired of on both of these occasions, but his tenacity of life and recuperative powers sufficed to steer him through these dangerous periods. During the past twelve months he was incapable of anything approaching hard work, and, little by little, he relinquished his practice. After a few weeks of acute suffering he gradually succumbed to his old-standing pathological process.

Francis Ernest Dunkley was a student of medicine at Edinburgh, and qualified in the year 1897. He served for a time in the Department of Public Health of Victoria as Medical Inspector. About the year 1901 he purchased the practice of Dr. A. R. Grant, of Oakleigh, and, thanks to his genial temperament and assiduity, he secured the confidence and affection of a large number of patients. He was an indefatigable worker and a very capable surgeon. He served as a Captain in the Citizen Forces for many years, and was for a time Acting Medical Officer of the 47th (Caulfield) Area. He was buried with military honours.

MEDICAL APPOINTMENTS IN GOVERNMENT DEPARTMENTS.

In reply to a letter directed by the Council of the New South Wales Branch of the British Medical Association to the Prime Minister of Australia, calling his attention to the advisability of refraining from making permanent appointments to medical or scientific positions during the currency of the war, the Secretary of the Home and Territories Department has intimated that the Administrator of the Northern Territory is in accord with the view expressed by the Branch Council, not only in justice to the men serving the country, but also because, after the conclusion of the war, there would be a wider field of applicants.

THE PROBLEM OF THE UNFIT.

Professor R. J. A. Berry has accepted an invitation of the Sydney University Extension Board to deliver two lectures on the subject of the problem of the unfit. The lectures will be entitled "Brain Growth, Mental Development and Education" and "Social Derelicts and National Efficiency," and will be delivered in the Union Hall at the University of Sydney on October 8 and 10, 1918, at 8 p.m. The researches of Professor Berry and of Mr. S. D. Porteus are too well known to the readers of *The Medical Journal of Australia* to need any special reference in this place. The lectures will doubtless attract large audiences of those interested in the social aspect of the moron. Mental deficiency will be discussed, defined and classified, and the problems of child development will be dealt with. Tickets of admission to the lectures can be obtained from the Secretary of the Sydney University Extension Board (Dr. Frederick A. Todd), from Messrs. Angus & Robertson, Limited, or from the Yeoman Bedell. Tickets for a single lecture will be issued at 1s. and for the two at 1s. 6d.

The staff of the Department of Public Health, Tasmania, presented a handsome dressing-case to Dr. C. L. Park on his relinquishing the position of Chief Health Officer to enter the Federal Quarantine Department. The presentation was made by the Assistant Health Officer, Dr. A. H. Clarke, who eulogized the services of the retiring officer. Opportunity was taken by Dr. Gregory Sprott, Mr. E. J. Tudor and other officers to express their regret at the loss Tasmania was sustaining in the departure of Dr. Park.

Correspondence.

LODGE CERTIFICATES.

Sir,—I enclose a slip sent me by a local lodge secretary, attached to a lodge certificate for one X. X. (a specimen of which I enclose also). The object of this letter is this: Has this secretary the right to ask me from what a patient of mine is suffering? In this particular matter it was of no consequence from either the patient's or my own point of view whether I said yes or no. But the matter is one involving a principle and one of the ancient lights of our profession (as much honoured in the breach as in the observance) is that anything disclosed to us in our professional capacity is secret. Are these lodge certificates not issued on the assumption that we ignore this dictum?

Yours, etc.,

T. S. THOMAS.

Maryborough, Queensland,

September 23, 1918.

Enclosed is an application form for sick allowance and the usual medical officer's certificate. The lodge secretary appends a memorandum: "Please fill in what X. X. was suffering from. It has to be shown in the returns."

[Medical certificates are required by the secretaries of lodges for the purpose of preventing members from claiming sick pay fraudulently. The lodge member necessarily liberates his lodge surgeon from the bond of secrecy when he applies for sick pay, since this application must be supported by a certificate of the medical officer setting forth the cause of the incapacity.—Ed.]

HOSPITALS AND THE WAR.

Sir,—As you have devoted a considerable amount of space and time to hospital abuse in Tasmania and elsewhere, I shall be glad if you will give publicity to some of the proceedings in our Queensland hospitals, which I consider equally deserving of attention, more especially as these institutions and the lodges associated therewith are giving employment to a large number of young, eligible men, who are greatly needed in the Army and Navy at the present juncture.

Herewith I am enclosing a copy of a letter addressed to the Charters Towers District Hospital Committee twenty-four hours before their July meeting, and which took that time and a month before it reached its destination—about 300

yards from the site of posting. When into the battle ground the enemy, in the person of Mr. Linedale, Warden and Police Magistrate, and representing the Government, gave it such a "delicate and deadly rapier touch" (as our evening newspaper calls it), that modern surgery was unavailing, and the local press peremptorily refused my humble attempts at resuscitation in their patriotic columns.

I must therefore appeal to you and others for space to treat this important case. Briefly put, the matter is: Over a quarter of a century ago I came to Queensland in search of a warm, dry climate, and when I state I have been excluded from public hospitals and most of the lodges for no other reason than that the secretary did not approve my treatment of a certain hysterical patient (who, by the way, is infinitely stronger to-day than her gallant protector), most people will agree I have a place hot enough for anything. This gentleman has long since gone to the Upper House, and his disciple, the present secretary of the hospital, gets £1 a day for dispensing and book-keeping, without any qualification for the former duty. With an anti-socialistic committee, strange to say, he has so thoroughly socialized the hospital that no one from the Prime Minister down need fall to have its services free of charge, and, stranger still, there never has been a difficulty of getting medical men, members of the British Medical Association, to act as medical superintendents. The present one came from an obscure village called Gln-Gln, and receives six or seven hundred pounds per annum, free house, light, and the right of consultations. Between him and the unqualified dispenser over £1,000 a year is absorbed, and when the young eligibles on the honorary staff (honorary assistants, more correctly speaking) are reckoned, two or three medical men could be spared for active service, and the above sum used for more needy centres of population. As a matter of fact, I am now, and have always been, ready to take my share of legitimate hospital duties, but I will not attend to pastoralists and others having six adult sons and two daughters, and £20,000 worth of property, or to a German with still larger assets, without pay, as they have recently done at our charitable institution, the hospital.

When such people shirk their monetary obligations it can readily be understood they are without military representation, but it is not easy to understand how B.M.A. members are allowed to hold such humiliating positions and to acquiesce in such tactics for the questionable honour of being associated with a country hospital.

Possibly some of your readers will say "there is something wrong with Dr. Redmond." Not in health, I am proud to say, nor yet in any other respect, otherwise I would not have been returned last year head of the twelve city apostles and this year unopposed by Liberal or Labour a member of the next local governing body, the Waterworks Board.

For all these years I have been the only medical man almost independent of lodge and hospital practice, and of 40 or 50 sojourners the only one with more than two of a family and representation in the trenches. Nor have I a single Government appointment; these are monopolized by the club, hospital and A.N.A. attendants, as a fitting sop.

Yours, etc.,

LEONARD REDMOND, M.D.

Charters Towers, Queensland,

August 19, 1918.

"The Committee, Charters Towers District Hospital.

"Dear Sirs,—As recent legislation in the House of Commons demands the services of every eligible medical man up to 56 years of age, with the hope of preventing wounded soldiers remaining on the battlefield for a considerable time without attention, as reported lately, it behoves us, and every part of the Empire, to assist to the utmost.

"In the old country no eligible man is allowed an appointment, in Victoria 40%, in New South Wales 35%, in Queensland generally 29% have gone, yet Charters Towers, now reduced to half its maximum population, and to a tenth its gold yield, has still as many medical men as at its best. I frankly admit two or three medical men have gone to the front, but all have been replaced by younger men with less families, if any.

"In better times two medical men visited the hospital daily, and did all that was necessary, if reports are reliable; and, with two others in town, looked after the entire district when mining accidents were more numerous and the population as

large as at present. I would therefore respectfully suggest that some effort be made by you with a view to liberating every eligible medical man connected with the hospital for active service and leaving the work of Dr. Kelly's locum tenens to be carried on by ineligible. By so doing, and reverting to the methods adopted here formerly, and in many other places, a saving of £1,000 a year can be effected without reducing legitimate hospital services.

"With the hope of promoting such a change I now tender you my services free of charge for a third of the duties and remain,

Yours respectfully,
"LEONARD REDMOND."

Books Received.

THE STATICS OF THE FEMALE PELVIC VISCERA, Volume I., by R. H. Paramore, M.D., F.R.C.S.; 1918. London: H. K. Lewis & Co., Ltd.; Demy 8vo., pp. 388, with 26 illustrations, including 23 plates. Price, 18s. net.

NEUROLOGICAL CLINICS, Exercises in the Diagnosis of Diseases of the Nervous System, given at the Neurological Institute, New York, by the Staff of the First Division, edited by Joseph Collins, M.D.; 1918. New York: Paul B. Hoeber; Demy, 8vo., pp. 271, illustrated. Price, \$5 net.

ÉTUDES SUR LE FONCTIONNEMENT RÉNAL DANS LES NÉPHRITES CHRONIQUES (Travail du Service et du Laboratoire de la Clinique Médicale de L'Hôpital Cochin), par Pasteur Valléry-Radot; 1917. Paris: Masson et Cie; Royal 8vo., pp. 256.

Medical Appointments.

It is announced in *The South Australian Government Gazette* of September 19, 1918, that Dr. W. Ramsay Smith and Dr. E. A. Johnson have been reappointed members of the Advisory Committee under the *Foods and Drugs Act, 1908*, of South Australia.

Dr. W. W. Cameron (B.M.A.) has been appointed Government Medical Officer at Ardethan, New South Wales.

The appointment of Dr. P. Blackall (B.M.A.) as Government Medical Officer at Queanbeyan, New South Wales, is announced.

During the absence of Dr. G. A. Knight (B.M.A.) on military service, Dr. C. J. Sabelberg (B.M.A.) has been appointed Acting Public Vaccinator for the Metropolitan District, Victoria.

Medical Appointments.

IMPORTANT NOTICE

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C.

Branch.	APPOINTMENTS.
VICTORIA. (Hon. Sec., Medical Society Hall, East Melbourne.)	All Friendly Society Lodges, Institutes, Medical Dispensaries and other contract practice. Australian Prudential Association Proprietary, Limited. National Provident Association. Mutual National Provident Club.
QUEENSLAND. (Hon. Sec., B.M.A. Building, Adelaide Street, Brisbane.)	Australian Natives' Association. Brisbane United Friendly Society Institute. Rockhampton Associated Friendly Societies. Cloncurry Hospital.

Branch.	APPOINTMENTS.
SOUTH AUSTRALIA. (Hon. Sec., 3 North Terrace, Adelaide.)	Contract Practice Appointments in South Australia. Contract Practice, Appointments at Renmark.
WESTERN AUSTRALIA. (Hon. Sec., Health Department, Perth.)	All Contract Practice Appointments in Western Australia.
NEW SOUTH WALES. (Hon. Sec., 30-34 Elizabeth Street, Sydney.)	Australian Natives' Association. Balmain United F.S. Dispensary. Canterbury United F.S. Dispensary. Leichhardt and Petersham Dispensary. M.U. Oddfellows' Med. Inst., Elizabeth Street, Sydney. Marrickville United F.S. Dispensary. N.S.W. Ambulance and Transport Brigade. North Sydney United F.S. People's Prudential Benefit Society. Phoenix Mutual Provident Society. F.S. Lodges at Casino. F.S. Lodges at Lithgow. F.S. Lodges at Parramatta, Auburn and Lidcombe. Newcastle Collieries — Killingworth, Seaham Nos. 1 and 2, West Wallsend.
TASMANIA. (Hon. Sec., Macquarie Street, Hobart.)	Medical Officers in all State-aided Hospitals in Tasmania.
NEW ZEALAND: WELLINGTON DIVISION. (Hon. Sec., Wellington.)	Friendly Society Lodges, Wellington, N.Z.

Diary for the Month.

Oct. 8.	Tas. Branch, B.M.A., Council and Branch.
Oct. 8.	N.S.W. Branch, B.M.A., Ethics Committee.
Oct. 11.	S. Aust. Branch, B.M.A., Council.
Oct. 11.	N.S.W. Branch, B.M.A., Clinical.
Oct. 15.	N.S.W. Branch, B.M.A., Executive and Finance Committee.
Oct. 16.	W. Aust. Branch, B.M.A.
Oct. 17.	Vic. Branch, B.M.A., Council.
Oct. 18.	Q. Branch, B.M.A., Council.
Oct. 18.	Eastern Suburbs Med. Assoc. (N.S.W.).
Oct. 19.	Northern Suburbs Med. Assoc. (N.S.W.).
Oct. 22.	N.S.W. Branch, B.M.A., Medical Politics Committee; Organization and Science Committee.
Oct. 25.	N.S.W. Branch, B.M.A.
Oct. 30.	Vic. Branch, B.M.A., Council.
Oct. 30.-Nov. 2.	Eye, Ear, Nose and Throat Congress, Melbourne.
Oct. 31.	S. Aust. Branch, B.M.A.
Nov. 1.	Q. Branch, B.M.A.
Nov. 4 to 13.	Vic. Branch, B.M.A., Nominations Received for Council.

EDITORIAL NOTICES.

Manuscripts forwarded to the office of this Journal cannot under any circumstances be returned.
Original articles forwarded for publication are understood to be offered to *The Medical Journal of Australia* alone, unless the contrary be stated.
All communications should be addressed to "The Editor," *The Medical Journal of Australia*, B.M.A. Building, 30-34 Elizabeth Street, Sydney, New South Wales.